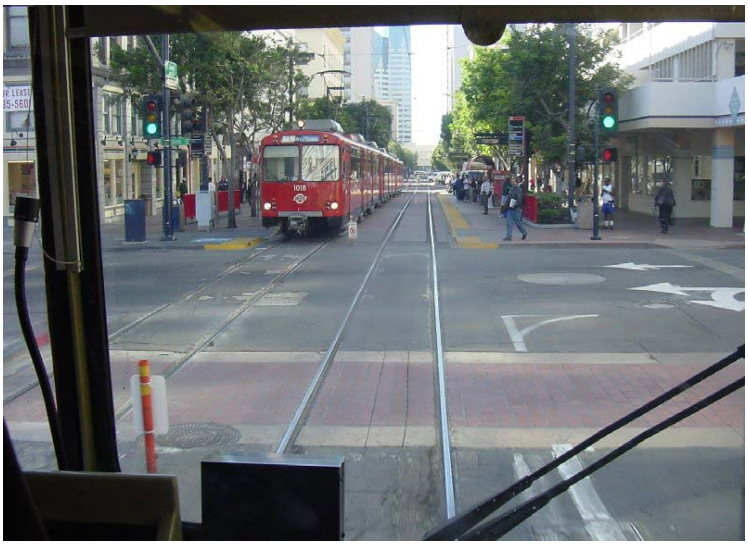
An Analysis of Public Transportation To Attract Non-Traditional Transit Riders In California



FINAL REPORT

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In memory:

Jerald L. Hughes

This study is dedicated in memory to Jerry Hughes, past General Manager of San Joaquin Regional Transit District, whose vision and foresight inspired us all.

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Abstract

The California Department of Transportation (Department) funded this study to determine how to increase ridership on transit in the state. The main objectives of the study were to identify customer expectations and needs regarding transit and to develop strategies to increase ridership. In order to achieve these objectives, the consultant team engaged in an extensive data collection effort documented here, which included a review of transit marketing literature, a household survey among 3,302 California residents, and focus groups among transit agencies and regional transportation planning agencies. To identify locations in the state with the best potential to attract transit riders, a Geographical Information System (GIS) program was used.

Results illustrate that improvements need to take place in service and operations, performance, marketing, and public policy. In general, transit agencies need to develop service improvements that customers need and prefer. Barriers were also acknowledged that need to be overcome in order to achieve these service improvements, which in-turn will increase ridership. GIS results indicate that the Bay Area, Los Angeles, Sacramento, and San Diego are the regions in the state with the highest potential to attract new transit riders. Findings from all tasks suggest that the target market for increased ridership include current riders (regulars) and non-riders (recruits) and that customer expectations and needs of riders and non-riders are very similar.

The report concludes with twenty-four project recommendations for the Department to assume with transit agencies and regional transportation planning agencies in support of the goal to increase transit ridership and make transit a more viable travel option. These project recommendations range from coordination and planning, market investigation and data analysis, and statewide strategies and programs.

The complete report is also available in PDF format at the Department of Transportation, Division of Mass Transportation website at:

http:// www.dot.ca.gov/hq/MassTrans/ridership

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EXECUTIVE SUMMARY

OVERVIEW

The California Department of Transportation (Department) undertook a statewide transit study to determine how to increase ridership on public transportation to alleviate congestion and increase mobility for California residents. This 29-month study began in August 1999 and was completed in early 2002.

The major objective of the study was to identify new and useful customer information, which would then be used to develop strategies focusing on non-traditional transit riders, by completing the following work tasks:

- Development and implementation of a statewide survey to obtain functional customer-oriented information in the following five analytical categories: (1) Services, (2) Operations, (3) Marketing, (4) Public Policy, and (5) Performance;
- Consultations with transit agencies and operators as the basis for identifying differences, similarities and successes in attracting non-traditional riders;
- Development of a statewide plan, which includes recommendations on the future role of the Division of Mass Transportation (DMT) in providing technical support, research, and other assistance to public transportation agencies in California; and
- Compilation and reporting of data in a compatible Geographic Information System (GIS) format.

The study is available via the Internet, at www.dot.ca.gov/hq/MassTrans/ridership.

WHO IS THE NON-TRADITIONAL TRANSIT RIDER?

For purposes of this study, the non-traditional transit rider was defined as commuters who travel to work and/or school, including both transit riders and non-transit riders alike. Many transit agencies refer to these commuters as “choice riders”, or “potential riders”.

STUDY BACKGROUND

Traditionally, transit agencies throughout the state have designed services and marketing plans around existing riders. Most transit research is based on consumer satisfaction surveys of current riders, due to convenience and low cost of on-board surveys compared to household surveys of the general population. As a result, transit agencies know a great deal more about the characteristics of riders than about non-riders. The data indicates that most of the existing riders have limited access to private automobiles and also have lower than average income. Using this data, transit agencies tend to design service and operations around current riders who are dependent on public transportation, referred to as the “traditional” target market in the research literature.

Recently, some transit agencies have identified a second target market – commuters, who typically travel from a suburban residential area to a high-density urban employment center, and also from suburb to suburb. Data indicates that a large segment of this market has access to an automobile; they drive to work or choose to use public transportation. By understanding why these riders choose transit, agencies can design service to attract a large number of potential riders to transit.

SUMMARY OF STUDY FINDINGS AND OBSERVATIONS

The findings from this study provide a picture of transit's potential to carry a larger proportion of peak period commuters. Highlights of these findings, summarized by analytical category, include the following:

Service and Operations

- Lack of funding is the primary limiting factor for transit operators in their continued effort to improve services.

- Transit currently operates in a difficult environment, in terms of land use, development, and local, state and federal funding priorities.

- Existing services have traditionally been developed to provide the maximum amount of coverage for the minimum cost to the public. Transit routes are primarily designed to serve major destinations and designated activity centers along highway and freeway corridors, local streets, and thoroughfares. In many cases, agencies have provided these same routes with only minor adjustments to the schedules or span of service for many years. Agencies have perceived their primary role as providing baseline services for their existing riders. It is unrealistic and impractical to believe that transit operators will completely reconstruct their services to meet the needs of a currently unfamiliar public.

- Services operated by transit agencies are *adequate for those segments of the population whose need for speed and flexibility are relatively low.*

- Capacity constraints may limit the ability of transit agencies to carry even a small portion of the identified target market, if they were to choose to use transit as a travel alternative.

- To make needed changes, transit agencies must *determine the potential impacts to current riders and the system overall, prior to implementing market-based service modifications and improvements.* Given that funding for operation for newly created services is limited, transit agencies could initially identify opportunities for service improvements and enhancements within their existing system, including improvement or enhancement of identified routes and/or sectors or service types (e.g. increased commuter, rapid bus services, etc).

- Making service improvements designed to turn *transit dependent riders into riders choosing transit as a viable option available to them* can result in increased ridership for all riders. For this to occur, *transit agencies must proactively make improvements and enhancements to existing service in direct response to rider preferences*.

- Transit agencies located in areas of the state with downtown urban cores (e.g. urbanized areas within the jurisdictions of SANDAG, LACMTA, MTC, and SACOG) currently operate public transportation services that more closely match the needs of a variety of customers. However, even in these optimal cases, less than half of the statewide survey respondents reported having convenient transit access from *both home and work locations*. Given the fact that clearly "more" service is operated in these areas, *the potential to increase transit ridership among those who indicate they are likely to ride, exists in urban areas with concentrated populations and a distinct downtown core*.

- Many other potential new riders are making rural to downtown, and suburban to downtown commutes. These riders value shorter travel times, shorter waits, expanded hours, more direct routing, and stops closer to their origins and destinations. *In order to provide such high-level service for those living and working in the less dense and larger areas of suburban and rural development, transit agencies will need to increase existing service levels, and modify services to include: 1) expansion of inter-city and inter-county commuter services; and 2) development of specialized services designed to accommodate new employment centers and residential developments.*

- Service improvements continue to be expressed by current riders, which suggests that transit operator efforts to improve service have not been sufficient to encourage increased transit use. This may also be a sign that although transit operators are "asking", they may not be "listening".

Performance

- In order to properly evaluate and assess transit agency performance, data must be collected and reviewed over a number of years to identify operating and performance trends. To begin the process of data collection, a transit agency database was set up for the Department to be further developed and used as tool for analytical, planning and information-sharing purposes.

Marketing

- Marketing is necessary to promote transit, but it cannot substitute for high-quality transit service.

- In general, *transit agencies tend to classify riders and non-riders according to their point of view, rather than seeing customers as more complex groupings or segments of individuals with a host of non-transit related characteristics that could influence their likelihood to use transit.* Often, policy decisions with respect to access to and availability of service, coupled with funding and operational constraints, determine many of the current approaches to categorizing or identifying both existing and potential customers, rather than market potential.

- The findings from all study tasks indicate that that *the target market includes both current riders and non-riders*.

- *On-going research and investigation efforts should be directed toward expanding the knowledge base of transit agencies relative to their specific markets.* Utilizing this information, transit agencies can begin to make more informed decisions about where, when and how much and what types of service should be operated.

- Based upon the total survey data sample, the study characterized 7.8% of the total survey population, who identified themselves as likely to increase their use of public transit, as follows:
  - Regulars;
  - Occasionals, and
  - Recruits.

- Transit agencies acknowledged the difficulty and considerable expense in determining whether a specific marketing strategy or program could result in measurable increases in transit ridership. *At the regional level, additional investigation is needed to determine what strategies are being undertaken by operators, as well as, development of stricter evaluation and monitoring techniques to assess the effectiveness of these strategies in increasing transit use.*

- *Transit agencies believe increases in ridership are the most important indicator for success of a marketing effort.* They also believe that other benefits can be derived from marketing activities, such as educating the public and gaining public buy-in and support for the transit system actions and initiatives.

- Respondents to the telephone survey rated public transit well on safety, but felt public transit needed to improve on reliability, convenience, and flexibility.

- Transit agencies frequently use a "differentiation" strategy, but think they are using market segmentation. Offering different levels and types of bus service - fixed route, direct service, express service, neighborhood service with variable routing - in a single market exemplifies a "differentiation" strategy. Many of these services have been offered without a clear understanding of the needs of the riders and the community for which the service has been developed.

- If transit agency performance and financial accountability is to be held to private business standards, then *a new approach to the need for marketing and a rethinking of concerns about the appropriateness of "product" and image promotion must also be taken.* "Marketing by committee", which tends to constrain the creativity of agency marketing staff, must be replaced with a more enterprising approach. Along with this new approach, *marketing budget allocations should reflect a commitment to achieve sustained public awareness and support of transit.*

- There is general consensus among those transit agencies participating in the regional focus groups that fundamental marketing tools could be developed in coordination with the Department, to include general transit promotional materials that could be used by any transit agency or transportation agency within the state.

Public Policy

- Transit agencies striving to provide widespread service coverage face a constant dilemma: Whether to provide less frequent, lower quality service to a wider geographical service area, or whether to concentrate resources on specific service types, high demand corridors or local markets. Often the choice is more political than practical, and generally results in a quality of service that is of limited value to the customers that transit operators seek to serve.

- Shifting to a primarily market-based approach to service development and deployment would be the next step in the effort to increase ridership on transit. This will require a significant change in philosophy and policy for most transit agencies, fueled by the need to make transit a viable travel alternative to the traveling public.

- The Department and other funding agencies desiring to increase mobility through the development of transit service alternatives will need to re-examine, and if necessary, modify funding policies and priorities to ensure that funding is allocated to projects that address the current need.

Household Survey Findings

- All surveys show that the needs and preferences of current transit riders are almost indistinguishable from those who do not ride transit.

- For the most part, the largest proportion of "choice" riders is currently non-riders. The non-rider group includes those having other transit options and choosing not to use transit. "Choice" riders also include a smaller segment of the population who currently use transit even when a private vehicle is available to make the same trip. Two factors distinguish non-riders from riders:

  - Non-riders' expectations are higher; and
  - Non-riders are less likely to commit to use transit, *even if those higher expectations are met.*

- Insights into travel needs and preferences of this non-rider group must then be used to guide and shape the development of any service-related and marketing strategies designed to attract them to transit.

- The highest percentages (50% to 63%) of persons or households most likely to increase transit use are found in census tracts within 15 cities in Northern and Southern California. *Future efforts to increase transit usage will be the most successful in the "target-rich" geographic areas of the state.*

- Survey-related findings specific to potential rider opinions and perceptions are presented below:
  What are the perceptions of, and attitudes toward, transit?
  - Frequent riders' rate public transportation higher than non-riders or occasional riders for all service attributes probed (flexibility, frequency, cleanliness, trip time, convenience, cost, and reliability.

- Attitudes of occasional riders (less than 4 x per week) are more favorable than non-riders, but less favorable than riders, toward transit service attributes

What is important to the potential market?

- Reliable arrival time;
- Convenience;
- Safety;
- Flexibility;
- Cost of driving;
- Cost and availability of parking;
- Availability of transportation at destination point; and
- Appearance and cleanliness of busses (more important for frequent riders).

What would it take to attract potential riders?

- More express service;
- Fewer transfers;
- On-time service; and
- Convenient access.

Why don't potential riders use transit now?

- Lack of direct or convenient routes;
- Stations/stops too far away;
- Trip times too long;
- No flexibility;
- No service available at all, and
- Need car for or during work.

WHAT ARE THE MAJOR BARRIERS TO IMPLEMENTING TRANSIT SERVICE IMPROVEMENTS?

There are many factors both real and perceived that can be seen as impediments to making needed service improvements and/or enhancements. These factors include:

- Funding and financial constraints. Transit operators indicate that they are unable to make the needed system modifications and improvements without additional, on-going funding.
- Policy issues not limited to coverage versus quality of service, including the misconception that modifying services to better serve the identified needs of the traveling public, is instead, giving preferential treatment to a specific rider group or market, while ignoring existing riders.
- Unknown or undetermined impacts to current riders including, service interruptions, re-routing, re-scheduling services currently operating; and
- Institutional and operational issues: (e.g. labor contract provisions relative to service modification and reassignment; service contracting versus direct operation, fares and pricing, etc).

STUDY RECOMMENDATIONS

The study recommendations were developed in recognition of the fact that there is *"no one answer, and no one-time answer",* and that each recommended action must individually and collectively serve to enhance and support the overall objective of increasing ridership on transit.

The Department, transit agencies, and other local, regional and state transportation agencies should adopt a "new vision" and approach to planning for and operating transit leading to gradual development and deployment of market-driven services. This new approach should be developed in consideration of the following:

- On-going research and investigation efforts should be directed toward expanding the knowledge base of transit agencies relative to their specific markets;
- Earning more riders requires improvement in both service and perception;
- Agencies will need to increase their current efforts to track and understand regional demographic shifts that can affect service needs and ridership trends, and whenever possible, work to mitigate the impacts of local and regional land-use policies and decisions;
- The Department and other funding agencies that want to increase mobility through the development of transit service alternatives will need to re-examine, and if necessary, modify funding policies and priorities to ensure that funding is allocated to projects that address the current need;
- Transit agencies will need to develop stricter marketing strategy evaluation and monitoring techniques to assess the effectiveness of strategies employed, and be willing to adjust and refine these strategies as needed to achieve objectives.

Based upon study observations and findings and in consideration of the institutional needs of stakeholder agencies, a total of twenty-four projects were recommended for implementation. They are grouped in three categories as listed in Table ES-1 below:

Table ES-1: Project Recommendations

Project Reference Number	Recommendation Type
	Coordination and Planning
1	Establish Seven Regional Transit Partnerships In California
2	Issue Statewide Call For Projects
3	Identify Increased Opportunities for Bus on HOV Express Service
4	Improve Park and Ride Lot Access, Siting, Signage & Maintenance
5	Improve Park-and-Ride and HOV Signage Relative to Transit Opportunities
6	Formulate Service Planning Strategies for Transit Route Refinement and Restructuring Targeted to Serve New Development
7	Develop Strategies for Improved Inter-County Transit Service
8	Assess Impacts of Developing Statewide Policy to Permit College Fee Support for Local Transit Passes
9	Develop Regional Employer Outreach Programs
10	Develop Long Range Planning Initiatives that Address Land Use, Development and Growth Issues
11	Review and Assess Statewide Policies and Procedures Affecting Transit
	Market Investigation and Data Analysis
12	Expand, Maintain & Update Transit Operator Profiles Database
13	Census 2000 GIS Data Indicators Update
14	Develop a Statewide GIS Transit Application
15	Internet Distribution of GIS Results
16	Automated GIS Transit Routing Software Model
17	Conduct Needed Market Research to Refine Understanding of Target Market
18	Conduct Regional Origin and Destination Studies
	Statewide Strategies and Programs
19	Create Template for Basic Transit System Map
20	Develop Statewide Off-the-Shelf Multi Media Marketing Program
21	Develop Transit Phone- & Web-links to Provide One-Stop Shopping for All Transit Information
22	Develop Training Program for Bus Buddy Implementation
23	Create School Transit Education Program
24	Develop Senior Education and Outreach Program

WHAT CAN THE DEPARTMENT DO TO INCREASE TRANSIT RIDERSHIP?

As a collaborator with considerable influence at the state level, the Department can play a great role in improving the potential for increasing the use of transit in California. First, it is important that the Department acknowledge the expertise of the agencies operating transit service, for the purposes of leveraging the localized knowledge base of its own Districts, and taking advantage of the wisdom of long-term transit stakeholders. In order to take full advantage of existing knowledge on the part of all stakeholders, and to continue to build upon interagency relationships, the Department will need to take agency-to-agency coordination efforts to a new level.

The Department should first work to develop strong alliances within the agency. Internal coordination can help to solidify management support, and strengthen commitment to newly introduced concepts and ideas. Maintaining open channels of communication within the Department divisions relative to transit issues will be critical to the efforts of the Division of Mass Transportation developing and successfully implementing the projects that are being recommended as a part of this study.

CHAPTER 1: INTRODUCTION AND RESEARCH APPROACH

1.1. INTRODUCTION AND OVERVIEW

The California Department of Transportation (Department) has undertaken a statewide transit study, Analysis of Public Transportation to Promote Non-Traditional Transit Rider Market Share in California. The primary goal of the study is to determine how to increase ridership on public transportation in order to alleviate congestion and increase mobility for California residents. The investigation focuses on expanding traditional target markets; identifying customer needs and expectations that influence mode choice; assessing the effectiveness of the transit system in meeting customer needs and expectations; identifying trends and barriers that challenge transit agencies; and developing promising customer oriented strategies to increase transit ridership.

To meet these study objectives, the Request for Proposal (RFP) posed a number of salient questions for the consultant to address according to the following five analytical categories of transit system characteristics:

- **Service:** Service categories (express, bus rapid transit, demand responsive, local circulation, etc.) and modes operated (bus, heavy, or light rail, dial-a-ride, trolley, ferry, etc.)
- **Operations:** Level of services operated (frequency, routing, scheduling of trips, etc.), location of stops and transfer/transit centers, and equipment (advanced technology and vehicle reliability/maintenance)
- **Performance:** Measurements and standards of productivity and performance (e.g. cost per mile/hour, passengers per mile/hour; fare box recovery ratios)
- **Marketing** (the term "marketing" will be used instead of "promotion" because "promotion" in reality is a subcategory of "marketing"): Programs, strategies, and incentives to encourage transit use, including dissemination of route and schedule information, education and awareness campaigns, pricing incentives and discounts for different rider categories (students, elderly, handicapped, etc.)
- **Public Policy:** Regulatory requirements for transit operators, including local, state and federal funding and investment priorities, policies and procedures; land use and development policies and regulations; and transportation pricing (including parking pricing and cash out, etc.)

In addition, the RFP identified the following study elements required to provide an understanding of the complex issues facing California travelers, transit agencies, transportation planners and policy makers. The elements are as follows:

- Outreach to transit operators as the basis for identifying differences, similarities and successes in attracting non-traditional riders;
- Development and administration of a statewide household survey to address customer oriented information relative to the five analytical categories: (1) Services, (2) Operations, (3) Promotions, (4) Public Policy, and (5) Performance;
- Compilation and reporting of data in a Geographic Information System (GIS) format.
- Development of a statewide plan including recommendations on the future role of the Mass Transportation Program (DMT) in providing applied research and technical assistance to public

transportation operators, as well as facilitating information sharing among transit agencies throughout California.

1.1.1. STUDY TASKS

The firm selected Judith Norman – Transportation Consultant (JNTC), to conduct the study. The consultant developed a comprehensive work plan that proposed a systematic approach to accomplishing the study objectives through completion of the following tasks:

Task 1: Clarifying Study Parameters and Developing Transit Rider Definitions
Task 2: Transit Literature Review and Analysis
Task 3: Conducting a Telephone Survey
Task 4: Transit Operator/Regional Agency Survey and Outreach
Task 5: Market-Based Evaluation and Review
Task 6: Documentation of Findings and Recommendations
Task 7: Development of Statewide Plan and Draft and Final Reports

Under each task, the consulting team defined parameters, designed methodology, and subsequently collected and analyzed data to provide answers to the study questions.

An overview of the study elements and corresponding tasks is provided below. A chart follows, which portrays the integration and comparative analysis of the findings from each study element, which are fully developed in Chapter 7.

Transit Literature Review and Analysis, Transit Operator Survey and Regional Focus Groups: Tasks 1, 2, and 4

Fifty-nine transit agencies across the state provided transit service and operations data and documents, including planning reports and marketing surveys. Characteristics of these transit agencies are compiled into one transit operator profiles database. If kept current, this data will be useful in service planning, needs assessments, and information sharing among transit operators and state and regional planning agencies. In addition, transit agencies and Metropolitan Planning Organizations (MPO's) participated in focus groups to identify promising service concepts and promotional activities likely to increase transit ridership, and to discuss policy and funding barriers to accomplishing these objectives. Baseline transit data and information provided includes:

- Types and modes of service operated statewide.
- Catalogue of transit operator service-related data and statistics.
- An inventory of transit operator rider and non-rider survey data, findings and results, as well as marketing strategies used by transit operators and regional agencies.
- Transit operator/MPO perspectives relative to the Department's role in assisting operators to increase transit ridership and mobility.
- Transit operator viewpoints concerning opportunities and challenges presented by current transit and transportation-related funding and operational policies.

Telephone Survey Research: Task 3

The consulting team conducted a statewide telephone survey of commuters from 3,300 households to ascertain why they choose to ride transit or use another means of transportation in their commute to work or school. The survey explored commuters' travel needs and expectations in relation to their perceptions of the benefits of using public transportation. These perceptions are based on both marketing communication and information on transit system design, obtained from personal experience or word of mouth. In addition to identifying the most prominent factors, attitudes, and preferences affecting mode choice, the survey also identified respondents' intention to use transit in the future.

The results provide preliminary identification of potential target markets and provisional characterization of these markets in terms of travel behavior, perception, and demographic characteristics. Due to limitations related to sample size, the statewide study should be followed by more in-depth market segmentation studies at the regional and county level.

Geographic Information System (GIS)

The consulting team designed a geographic information system to combine, compare, and analyze the survey data, existing demographic data and geographic information on transit service. The GIS effort in this study fulfills a dual role: It is both an analytic tool and an end product of the study. Key advantages of the GIS approach used on this project include providing the Department the ability to:

- Locate various target markets in relationship to service availability;
- Organize interrelated variables into a spatial format;
- Allow visual testing of scenarios.

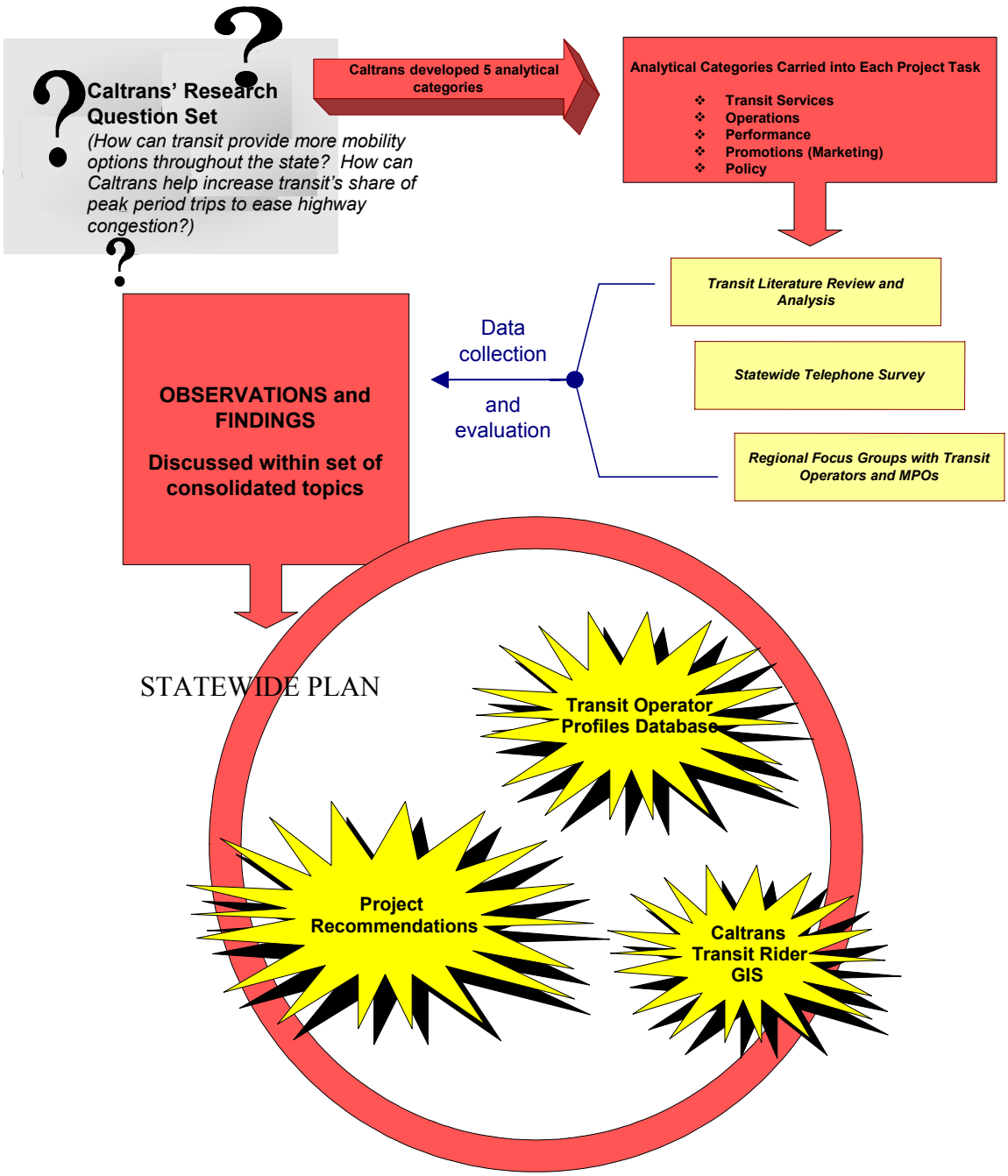
Analysis of survey and census data displayed in GIS format indicates the location of specific population subgroups likely to increase transit ridership, based on demographic characteristics of survey respondents who indicated an interest in starting or increasing use of public transportation in the future.

Future inclusion of transit service routes would enable transit operators to use this system to identify high demand corridors in the design of new routes, restructuring of existing routes, and development of new service concepts. Operators could identify the location of specific target markets through comparison of existing routes to regional population, employment, and origin/destination data in combination with market research findings.

Statewide Plan: Tasks 5, 6, and 7

Chapter 7 of the report provides a comparison of findings from each study element, which are then integrated into final recommendations. Using study results, the consulting team developed a statewide plan, including short-and-long term strategies and specific project recommendations that the Department can implement in partnership with local agencies. The plan also outlines potential roles and responsibilities that the Mass Transportation Program (DMT) may choose to take on while working with local agencies in implementation of the final recommendations.

A schematic representation of the analytical process is shown in Figure 1-A below.



Overview of the Analytical Process

Figure 1-A | June 2001

1.2. DEFINING THE NON-TRADITIONAL TRANSIT RIDER

1.2.1. BACKGROUND

Traditionally, transit agencies throughout the state have designed service and marketing plans around their existing riders. Most transit research is based on consumer satisfaction surveys of current riders, due to the convenience and low cost of on-board surveys compared to household surveys of the general population. As a result, transit operators know a great deal more about the characteristics of riders than non-riders. Data collected indicates that the majority of existing riders have limited access to a private automobile and lower than average income. Using this data, transit operators tend to design service and operations around current riders who are dependent on public transportation, referred to as the "traditional" target market in the research literature. Lacking sufficient information on non-riders, transit agencies generally have been reluctant to develop service concepts that would appeal to potential riders.

In more recent years, some transit agencies have identified a second target market – commuters who typically travel from a suburban residential area to a high-density urban employment center, and also from suburb to suburb. Demographic data indicates that a large segment of this market has access to an automobile; they either drive to work or choose to use public transportation. By understanding why these riders choose transit, agencies can design service concepts to attract a large number of potential riders to transit.

Recently, some transit agencies with greater marketing resources have developed more sophisticated approaches to understanding the attitudes and perceptions of potential rider market(s). Over the last several years, they have developed household surveys that explore non-riders' attitudes toward transit, generally approaching the subject in one of two ways:

- Non-riders are asked to provide their own reason(s) for not using transit.
- Non-riders are probed to determine the types and magnitude of service improvement or the changes needed to entice them onto public transportation.

The RFP identified the "non-traditional transit rider" as the focus of the study, however it was necessary to clarify the definition of the target population for purposes of consistent data collection and analysis relating to the characteristics of potential transit riders. When designing the telephone survey, the Department and the consulting team together defined the target population as commuters who travel to work and/or school, including both transit riders and non-riders alike. The survey questionnaire identifies characteristics of both non-riders and riders by frequency of transit use. The survey questionnaire asked commuters to provide information relating to their mode choice, travel patterns, and demographic characteristics. It was also designed to provide insights into commuters' travel needs, expectations and perceptions of the existing public transportation system, including why they did or did not ride transit, and which service and operational improvements would attract potential riders to public transportation. In addition, it also serves to verify and update information from previous surveys of potential riders.

1.2.2. FEASIBILITY OF MARKET SEGMENTATION APPROACH

The Department and the consultant team discussed the possibility of incorporating a market segmentation study to identify attitudes and perceptions of specific subgroups of the target population, and identify the

most likely segments to target in service design and marketing campaigns. Investigation of the proposal revealed that market segmentation studies require complex, detailed analysis on a regional level, because each region would be comprised of different subgroups or target markets. This level of analysis would not be possible with the current sample size of 3,300 households statewide. The discussion concluded with a recommendation to conduct additional market segmentation research on a regional level, at a later time. *On-going research and investigation efforts should expand the knowledge base of transit operators relative to their specific markets.* Using this information, operators can begin to make more informed decisions when designing service plans and marketing programs.

1.2.3. TRANSIT INDUSTRY TERMINOLOGY

During the regional focus groups, the consultant team introduced the term "non-traditional transit rider" to determine how it relates to terminology used in the transit industry. Transit operators report that they do not actually use the term "non-traditional transit rider", however, some operators believed the term referred to the "choice rider", while others considered it to be "potential riders", or "*anyone who is not riding transit* in a given community". Transit operators reportedly use the following classifications, which are typically categorized by type of ridership and corresponding demographic characteristics:

- Ridership
    - Current ridership: Riders vs. non-riders, potential riders, or future customers
    - Frequency (every day riders vs. infrequent riders)
    - Mode of travel (automobile, carpool/vanpool, transit, bicycle, walking)
    - Mode of public transportation (bus, light rail, heavy rail)
    - Fare categories (full fare, student, elderly/handicapped)
    - Time of day (peak period commuters/off peak riders)
    - Trip purpose (shopping, commuting to work, school or training programs)
- Demographics
- Under-represented demographic groups
- Auto availability and middle-income: Sometimes labeled "choice riders" indicating people who choose transit only if it meets their needs
- No auto availability and lower income: Sometimes labeled " transit dependent riders" indicating people who have to use transit even if it does not meet their needs. Groups may be identified through the Transit Development Act (TDA) unmet needs process:
    - Low income
    - Seniors
    - Disabled
    - Medical service customers
    - Youth: too young to qualify for driver's license
    - Students (attending school or job training)
- Niche markets
    - Students (high school, college or university)
    - Reverse commuters
    - Tourists
    - Special event riders (ball games, holiday shoppers, concerts)

For the most part, *transit operators classify riders according to ridership characteristics, and design services on the basis of funding and operational constraints*. They generally lack information on non-riders, and as a result do not consider lifestyle or travel needs of potential customers when designing

routes, service concepts, and marketing plans. However, a few agencies are starting to design service concepts and marketing plans around market segments such as college students, inter-county commuters, and off-peak period commuters, for example.

1.3. ESTABLISHING STUDY PARAMETERS

At the outset of the study, a working group was established comprised of the Department Project Manager, the consulting team and other Department staff including representatives from the Division of Mass Transportation (DMT) and the GIS divisions. The working group met a number of times throughout the duration of the study to direct the investigation, provide input to each study element, and review work products. The study was guided by a Technical Advisory Committee (TAC) including representatives from transit agencies, California Transit Association, as well as regional transportation planning agencies and metropolitan planning organizations from various regions of the state.

Recognizing the far-reaching scope and complexity of the work proposed, the consulting team collaborated with the Department to clarify and define research parameters to ensure that the Department's objectives for the study would be achieved. The consultants devoted initial meetings to reaching agreement on the focus and direction of the study and follow-up meetings to maintaining consistency in approach throughout various research and analytical tasks outlined in the project work plan.

As a first step it was necessary to clarify and define study parameters, because the initial Request for Proposal (RFP) did not provide clear guidance on a number of study-related issues, which included:

- Clarification of the definition of the "non-traditional" transit rider.
- Approval of criteria for selection and inclusion of transit operators statewide.
- Selection of service categories and types to be studied (e.g., bus, rail, local, commuter, and express).
- Information requirements, analysis planned, data collection, and telephone research methodology.
- Purpose and viability of statewide regional boundaries (Nine Economic Regions).

The working group reached agreement upon the transit operator selection criteria, study parameters and other study-related assumptions, as outlined below.

1.3.1. TRANSIT OPERATOR SELECTION CRITERIA

Transit operator selection criteria were developed to ensure that the maximum number of transit operators would be included in the research effort and to obtain high level of data reporting and consistency statewide.

- The transit operator data collection and research effort should focus on regional and municipal public transit operators. Data from community-based systems would not be solicited for participation in the study, but these operators might be surveyed, time and budget permitting, to ascertain their ability to provide connectivity to regional transit services and facilities.

- Three criteria were to be applied to the selection of transit operators included in the study:
  - Must be a public transit operator (not to include private operators for profit).
  - Must operate fixed-route bus service with at least ten (10) vehicles in revenue service.
  - Must be a recipient of federal or state transit funding subsidies and report passengers, miles, and other operating statistics.

1.3.2. STUDY PARAMETERS AND DEFINITIONS

Study parameters were agreed to as follows:

- Collect and analyze data on weekday transit service only, no weekend or holiday service.
- Focus on home-to-work and home-to-school trips made by the public.
- Research should include the following modes segregated by service category: Bus (express and local bus service), rail (commuter, light rail, heavy rail or subway), and ferry service (SF Bay Area and San Diego).
- No transit rider definitions were applied at the outset of the data collection effort. Ridership data would be collected from each operator and obtained from the telephone research according to the number of days transit riders use the service each week. Once this and other data is collected and reported, the working group would develop and apply the appropriate rider definitions.
- The consultant team should use the "best available" demographic data for each region. Members of the working group agreed to identify the best source of information (e.g. regional agencies or Department of Finance) and then determine what source would be the most reliable and consistent over the course of the study.
- Telephone research sample sizes should be adjusted to equalize the number of surveys planned for each transit rider group (traditional, non-traditional and non-riders, as applicable). The consulting team agreed to comply with this request from the Department's staff as long as there were no research-related impacts.
- Although the primary focus of the study is the "non-traditional" transit rider, the department directed the consultant team to maintain sensitivity to the "transit dependent" rider as they relate to the objectives of the study.

1.3.3. REGIONAL BOUNDARIES

For geographical analysis, the RFP directed the consultant to divide the state into nine (9) economic regions. These nine regions were as follows:

Northern California Sacramento Bay Area Central Valley Central Coast
Los Angeles Inland Empire Orange County San Diego

After discussion of the rationale for the designation of nine economic regions, the consulting team recommended a change for research and analytical purposes. It would be more useful to define the regions according to a purely geographical context (county, northern versus southern California) and/or according to transit planning and programming functions (MPO, RTPA boundaries). As a result, the data was collected and analyzed and findings presented in both a geographic and planning context.

CHAPTER 2: TRANSIT LITERATURE REVIEW AND ANALYSIS

The study objectives in the original Request for Proposal (RFP) directed the consultant to collect, review and analyze data and information specific to current transit riders, non-riders, transit operators and metropolitan planning organizations (MPO's) for each of the nine study areas delineated by the Department. In response to the objectives of the RFP, the consulting team proposed to:

- Collect and compile relevant individual system operating and performance data and statistics, including ridership, fares, types of service operated and other available information; and
- Evaluate current available market or transit rider research to assess the value of this information to the telephone research proposed by the consultant, as well as, to the overall study effort.

The literature review serves to complement the other study tasks, which include the development and administration of a statewide telephone survey and creation of a GIS database. The comprehensive nature of the task and the distinct differences in the types of information and data being compiled and reviewed dictated that JNTC conduct and document the literature review in two parts:

- Development of Transit Operator Profiles; and
- Marketing Survey Research Review and Assessment

The information obtained from this task was translated into a broad view of existing conditions and challenges, and is presented below.

2.1. METHODOLOGICAL APPROACH

2.1.1. TRANSIT OPERATOR/MPO DATA COLLECTION ACTIVITIES

JNTC, in cooperation with the Department, developed contact lists of transit operators and MPOs throughout the state of California. Ultimately three (3) separate lists were finalized to include:

- Ninety-five (95) Public transit operators (state and federally funded operating at a minimum 10 fixed-route vehicles)
- Ninety-seven (97) Community-based systems (city-operated, not state or federally funded)
- Forty (40) Metropolitan Planning Organizations (MPOs) (including County Transportation Commissions (CTCs), Local Transportation Commissions (LTCs), Council of Governments (COGs) and Councils of Associated Governments (CAGs))

In May 2000, a total of one hundred thirty-five (135) public transit operators and MPOs were contacted with the request to provide the most recent data (not more than three years old) and to respond by a specified deadline. A total of forty-five (45) agencies responsible for data collection responded, representing a thirty-three (33) percent response rate. The consultant's effort focused on obtaining the most recent data and information from the list of transit operators and MPOs.

To facilitate compilation of the data and information obtained from documents, the consultant team developed data tables to compile transit operator information. The tables were designed to collect standard transit industry operational, service and performance-related data from operators. In addition, a Data List was developed and sent out to all agencies in March 2001, accompanied by a Transit Operator Survey. Transit operators were requested to complete the data list, which included all data categories. Additional data from the 1998 National Transit Database were incorporated into the tables.

2.1.2. TRANSIT OPERATOR PROFILE

Utilizing the transit data collected from all sources, JNTC developed a "profiles" database on transit operators statewide, which includes data and statistics for fifty-nine transit properties, thirty Northern California operators and twenty-nine Southern California operators.

The transit operator "profiles" database was developed for the purposes of:

- Creating a baseline inventory and catalogue of transit operator data statewide that will in future years provide the Department with a historical record of information that can be used for planning, analytical and information sharing purposes; and
- Assisting the consultant team and the Department in correlating and informing subsequent study tasks;

In addition, the process of contacting and interfacing with transit operators and agencies to obtain data, information and input has resulted in a number of other ancillary benefits, such as:

- Expanding the communication base between the Department and transit operators and agencies with regard to transit issues; and
- Educating and informing the Department concerning the general nature of transit operators statewide, the services they provide and the issues and concerns of these agencies.

JNTC reviewed transit operator profiles data to identify factors that impact the provision of transit services provided by operators, and to subsequently integrate this information with findings and observations obtained from the Transit Operators' Survey. This information has also been used to inform and shape the Comparative Analysis and overall study findings and recommendations. Operational and service-related facts obtained from the transit operator profiles database are summarized below and includes a discussion of relevant issues surfacing from the data in the following areas:

- Transit Agency Organizational Structure
- Service Coverage
- Modes Operated
- Equipment
- Fares
- Performance and productivity

2.1.3. TRANSIT DATA SUMMARY

- The largest bus and rail transit operator in the state is the Los Angeles Metropolitan Transportation Authority (LACMTA) in Los Angeles, with annual ridership of 416.8 million, operating 1.5 million

annual passenger miles, utilizing 2,017 buses, 58 heavy rail (subway) and 51 light rail vehicles. The agency directly operates 1,888 buses and contracts the operation of 129 vehicles.

- The second largest bus and rail transit operator in the state is San Francisco Municipal Railway (MUNI) in San Francisco, with annual ridership of 225.6 million, operating 440.6 million annual passenger miles, utilizing 545 buses and 167 light rail vehicles. The agency directly operates all transit vehicles.

- The largest rail only operator is San Francisco Bay Area Rapid Transit District (BART) in Oakland, with annual ridership of 91 million, operating 1.1 billion annual passenger miles, utilizing 487 heavy rail vehicles. The agency directly operates all transit vehicles.

Of the operators included in the database of operating transit services, thirty-seven operate bus and demand responsive services and the following eight operate bus services only:

Northern California:
1. Alameda –Contra Costa Transit District (AC Transit)
2. Chico Area Transit
3. Yolo County Transportation District
4. Unitrans
5. Siskiyou County Transit

Southern California:
6. Santa Barbara Metropolitan Transit District (MTD)
6. Foothill Transit
7. Culver City Municipal Bus Lines

Three operate commuter rail services only:

Northern California:
1. Altamont Commuter Express Authority
Peninsula Corridor Joint Powers Board (CalTrain)

Southern California:
3. Southern California Regional Rail Authority (SCRRA) – Metrolink

Two operate ferry services only:

Northern California:
1. City of Alameda

Southern California:
2. Star and Crescent Boat Company, San Diego Harbor Excursion

Nine operate multi-modal services, which include bus and at least two other modes, including: Trolley Bus, Demand Response, Ferry, Heavy Rail, Light Rail, Commuter Rail, Cable Car and Vanpool:

Northern California:
1. San Francisco Bay Area Rapid Transit District (BART)
2. San Francisco Municipal Railway (Muni)
3. Golden Gate Bridge, Highway and Transportation District
4. City of Vallejo, Vallejo Transit
5. Santa Clara Valley Transit Authority

Southern California:
1. Los Angeles County Metropolitan Transportation Authority (LACMTA)
2. Long Beach Public Transportation Company
3. North County Transit District (NCTD)
4. San Diego Regional Transportation Services (SANDAG/MTDB)

Twenty operators (20) directly operate their bus services (do not contract out for service), whereas twenty-one (21) contract out for bus services. Thirteen (13) directly operate and contract out for operation of bus service. The aggregate average age of the bus fleet is 7.5 (7.48) years.

Statewide fares by rider category:

- One-way Adult fares for transit systems range from $0.50 to $2.20 (average: $1.35).
- One-way Student fares for transit systems range from no charge to $1.65 (average: $ 0.86).
- One-way Senior/Disabled fares for transit systems range from no charge to $1.10 (average: $0.55).
- One-way Child fares for transit systems are generally no charge for children up to 5 or 6 and under.
- One-way trips on demand response services range from $.60 to $4.20 (average: $2.40).
- One-way trips on specialized services (express or rapid bus, special event, etc.) range from $0.75 to $3.00).
- Operating expense per vehicle revenue hour (service efficiency measure) for directly operated systems range from $50.00 to 106.00 per hour. (Exception Unitrans, Davis, CA. @ $30.35 per hour).
- Operating expense per vehicle revenue hour for systems contracting for services range from $39.00 to $52.00 per hour.
- The primary source of funding for transit systems statewide is local (e.g., regional sales tax measures and propositions, city general funds, etc.).
- The secondary source of funding for transit systems statewide is fares (fare box revenue).
- The primary source of funding for capital (vehicles, facilities, etc) is federal (72%).

2.1.4. FACTORS IMPACTING SERVICE PROVISION BY TRANSIT OPERATORS

A number of institutional, operational and service-related factors surfaced as a result of the transit operator survey. These factors impact the entire transit operation, from the development of service policies and priorities, to the scheduling and deployment of services, and collectively form the basis for an effective and efficient service operation. The effect of each of these factors upon the operating environment will vary by operator, but must be considered in order to effectuate modifications or improvements to existing policies or services, such as would be needed to develop services to address the needs of potential riders. A discussion of these factors follows below.

Transit Agency Organizational Structure

Organizational structures of public transit operators and planning agencies vary statewide. However, the following three basic organizational scenarios can be distinguished:

- Scenario #1: Operator of municipal or countywide public transit, supported by a separate regional planning, programming and policy-setting agency (e.g. MPO, RTPA, CTC, LTC, etc.):

  Bay Area operators including the San Francisco Bay Area Rapid Transit District (BART) and San Francisco Municipal Railway (Muni); operate services within their respective municipal and regional service areas, under the regional planning and funding umbrella of the Metropolitan Transportation Commission (MTC).

- Scenario #2: Combination operator of regional or countywide public transit services as well as some responsibility for planning, programming and allocating transit funding resources, supported by a separate regional planning, programming and policy-setting agency (e.g. MPO, RTPA, CTC, LTC, etc.):

  The Los Angeles County Metropolitan Transportation Authority (LACMTA) in Los Angeles is the regional public transit operator in Los Angeles County operating eighty-five (85) percent of the service in the county. In a dual role the agency is responsible for planning, programming and allocating funding to their transit operation and to other municipal operators within the county. However, the Southern California Association of Governments (SCAG), the MPO, maintains responsibility for regional planning and programming for a five-county area including Los Angeles, and for preparing regional transportation plans and establishing policy.

- Scenario #3: Regional Planning Agency responsible for planning, programming and allocating transit funding resources and operating regional public transit services:

  Tahoe Regional Planning Agency (TRPA) is a small rural agency in Lake Tahoe, CA, that serves as the RTPA and operates services within the county.

The organizational structure of transit operators impacts all aspects of transit planning, policy development, operations, and funding within the agency. For example, large transit agencies responsible for both operating transit services and allocating funding to operators within a region (including themselves - Scenario #2) must consistently work to maintain equity in prioritizing their agency needs versus those of other operators in the region. Smaller transit properties operating within this type of environment must work fastidiously with the larger operator and the MPO to ensure that their operating needs are understood and addressed, and equally, to continue to meet regional goals established by the larger operator and MPO.

It is a constant challenge to maintain compliance with governing board and regional agency policy, funding and performance goals and mandates, while striving to meet customer needs. The ability of transit operators to meet these challenges will largely depend upon their ability to effectively work within their organizational framework, and to maintain balance between these sometimes-opposing goals.

Service Coverage

The data shows that there are a number of county or "regionally" operated transit systems within the state, that are providing transit services to large geographic service areas encompassing hundreds of square miles. Operators striving to provide this level of service are likely to struggle with all, or some of the following operational and service-related issues:

- Providing adequate geographic coverage. This usually means lengthy and oftentimes circuitous route design in order to provide at least a minimum level of service to the public;
- Less frequent service and extended travel times for riders;
- Greater wear and tear on transit vehicles resulting in higher maintenance and operating costs and decreased reliability; and
- Decreased ability to meet underserved or unmet needs due in some measure to widespread deployment of agency resources

Regional and county operated transit systems are able to provide broad-based service coverage to a large population base, but lack institutional flexibility to modify services to address the specific travel needs of existing and potential customers. The objective of providing a variety of transit service options that are effective

in meeting the needs of large and varied customer base, is at best, difficult to achieve. Transit operators will need to re-assess their service policy objectives in consideration of the needs of existing and potential customers.

Modes Operated

Statewide, operators provide service via a number of modes including bus, trolleys, rail (light and subway), cable car and ferry, and operate different types of service (e.g. commuter rail and bus, demand response, local circulation, etc.). Seemingly, the public has a multitude of options to choose from when taking transit. In reality, there are fewer choices for the traveling public than it appears. Many bus operators in both rural and urban settings primarily provide fixed-route local circulation bus and demand responsive services. In addition, commuter or express bus or rail services are also operated, but represent a smaller percentage of the system, and are limited to operation in designated high-activity corridors.

Since operators are hindered by budgetary and a myriad of other constraints to providing the choices that current and non-traditional riders need, it can be said that, within the transit-operating framework, rider choices are basically restricted to the services that transit providers can defensibly afford to operate.

Equipment

As a rule, the useful life of a full-size transit bus is twelve (12) years. The data indicates that vehicle replacement is currently underway at some transit properties and will be a priority within the next three years for a number of systems. Although many transit operators adhere to recommended vehicle replacement schedules, they sometimes have to spread the schedule over a number of years because of the high cost involved. Transit operators may elect to rehabilitate vehicles instead to extend their service usefulness. This approach, although necessary for cost reasons, may yield mixed results in terms of maintaining consistent service reliability (on-time performance, minimal breakdowns, etc.) and lower maintenance costs. Data specific to vehicle age and service reliability was not collected as a part of this work effort. However, recognizing that service reliability ranks consistently high on the customer needs scale, data on the timely vehicle replacement in relationship to service reliability should be assessed in the future.

The data also shows that transit operators are providing a wide-range coverage using a relatively small number of vehicles. Obviously, transit operators' policy to provide maximum service coverage with a limited number of vehicles results in vehicle wear and tear, but more importantly, this directly impacts the levels and frequency of service that can be provided to riders.

Fares: Types and Pricing

Transit operators statewide are comparable in their pricing of transit services. Fare categories are generally standard, and used by all properties, as follows: Adult, Senior, Disabled, Student and Child, with some special discounted fare categories for multiple ticket or token purchases and special events or promotions.
Fares are established as a single price for a one-way trip taken on a route, or based upon the distance traveled within pre-determined zones.

Although the pricing of transit services can be viewed as somewhat reasonable to the rider, the differences in fare pricing and reciprocity between regions and/or municipalities and in fare payment methods can create confusion for riders trying to determine how much, and/or when to pay. This is particularly true for travelers needing to take a transit trip using more than one operator. Operators statewide are employing cooperative

strategies to provide "seamless" services (e.g. debit card technology, interagency fare agreements), however, this issue will continue to prove challenging even as new or expanded services are developed.

Performance and Productivity

Funding agencies rely on performance standards and indicators to evaluate the effectiveness and efficiency of public transit operators. Depending upon the funding source (local, State, and Federal), transit operators may be required to meet a number of performance and productivity standards before receiving funding for projects and programs.

To illustrate the usefulness of the data contained in transit operator profiles database, the consulting team utilized some of the data to calculate transit operator performance information using the following cost and service effectiveness and efficiency indicators:

- Cost per vehicle revenue hour
- Cost per vehicle revenue mile
- Operating Cost Per Passenger Mile
- Operating Cost per Unlinked Trip
- Unlinked Passenger Trips Per Revenue Mile
- Unlinked Passenger Trips Per Revenue Hour

However, an assessment or comparison of operator performance and productivity statewide with the data collected during this study effort would be inappropriate given that the database includes only a single year of data. In order to properly evaluate and assess transit operator performance, data must be collected and reviewed over a number of years to identify operating and performance trends. The consulting team developed the database to create a base year for a statewide transit operator database to be continued by The Department for future analytical, planning and information-sharing purposes.

The consulting team noted that transit operators contracting exclusively for transit service have a lower overall cost per vehicle service hour than either operators directly operating services or a combination of direct operations and contracting. Although the cost per hour for contracted transit services seems to be lower based upon the available data, a correlation between service quality and cost cannot be determined.

2.2. MARKET SURVEY RESEARCH REVIEW AND ASSESSMENT

2.2.1. MARKETING DOCUMENT REVIEW

The list of contributing transit operators and MPOs, and a catalogue of promotional and marketing documents are presented in Appendix A, Table A-1: Summary of Document Collection Results for Transit Marketing and Market Research. The table is segmented into Northern and Southern California regions, with the city of Fresno and points south constituting the Southern California segment. Rural transit operators are so designated.

2.2.2. COMPILATION OF PREVIOUS MARKET SURVEY RESEARCH EFFORTS

At the outset of this project, it was intended to use the review, evaluation and compilation of results of previous market research not only to report the conclusions of specific survey efforts, but also to inform the Department survey development effort (Task 4) and ultimately the GIS. This section summarizes statewide market survey research, based on the substantial number of data and document submissions received and reviewed to date. The analysis is designed to accomplish the following:

- Identify topic areas where previous statewide market research results have yielded sound knowledge about transit behavior and preferences for various defined categories of riders and non-riders;
- Based on the knowledge accrued from previous surveys, identify topic areas where the Department could usefully investigate new areas, or identify topics for which confirmation or validation of current knowledge would prove helpful to greater understanding; and
- Provide the Department and the TAC with the information from existing market research that will ultimately lead to a useful definition of "non-traditional rider."

From the beginning the consultant team took a very flexible approach as to how to organize the information contained in the five analytic categories. That is, as the data was received and reviewed and the importance of and relationship between discrete pieces of information became apparent, the categories of presentation evolved. Transit operating and performance data is relatively standardized across transit agencies, due to state and federal reporting requirements. By contrast, market research efforts vary widely, according to specific goals of each transit operator. This fact led to a presentation approach that highlights specific examples from the data reviewed, and discusses them in the context of project goals and objectives. The format includes text boxes that indicate verbatim quotes, with narrative explanations and data interpretation designed to link examples and provides the reader with a more comprehensive understanding of transit market issues at the system, regional and statewide levels.

2.2.3. OVERVIEW OF TRANSIT OPERATOR/MPO SURVEY DATA

A listing of the salient survey data culled from the large amount of material received in the data collection phase of this project is detailed below in Appendix A, Table A-2 - Summary of Transit Operator/MPO Survey Documents and Sample Size. The submitting agencies are again grouped by region into Northern and Southern California, with the city of Fresno and points south constituting the Southern California segment.

Summing up the number of riders surveyed for all survey documents submitted (i.e., not including references to summaries of surveys contained in other planning documents), the total number of people surveyed as part of this project, for riders of all kinds, is 178,659. A total of 5,734 random surveys of general populations were taken, which include transit riders and non-riders in close approximation to the ratio of riders to non-riders found in the state of California. (Conservatively, this would mean that over 5,160 non-riders had been surveyed through a random digit dial methodology, which would represent 90% of the population. A 10% mode split for transit is a generous assumption by any count.). In addition, 5,334 non-riders were targeted specifically in the surveys listed above bringing the total survey results for non-riders to 10,494. Finally, 706 commuters in San Diego and 203 seniors in Orange County, drawn at random, were polled for their views on transit issues. Drawing inferences and conclusions from this large a set of sample sizes, especially where the different subsets tend to agree with one another, permits a great level of confidence in the resulting analysis. In addition to the documents in Table A-1 of Appendix A, a summary analysis of ten public opinion polls (ranging from local to national in scale, and some dated nearly 10 years ago) entitled *Benchmark Report On California Attitudes,* prepared by Odyssey 20/20 (January 2001) was provided to the consultant team in March 2001 by a member of the Policy Committee Team. The report, which made recommendations to the 1999 California Transit Association's Strategic Plan, contains many findings that corroborate the primary

source material listed in Appendix A, Table A-2, as well as thoughtful conclusions and recommendations drawn from those findings. As appropriate, those recommendations will be incorporated into Chapter 7 of this report.

2.2.4. SALIENT FINDINGS OF CURRENT MARKET SURVEY RESEARCH

Below are detailed presentations of specific survey results designed to indicate precisely what different transit operators already know about their riders, and, equally important to this project, what they know about people who do not use their transit services. The surveys thus presented and assessed are deemed sufficiently representative of likely statewide survey effort results, based on statewide geographic coverage, sample size and comprehensiveness of the survey instrument, to provide the Department with a measure of confidence in the findings and conclusions drawn from all of the surveys reviewed. However, it is important to note that without access to cross tabulation data for each survey, the level of detail found within each document reviewed necessarily limits analysis.

Transit operators for a number of reasons, which may overlap, undertake market research (primarily utilizing surveys). Common goals of survey research are to:

- Satisfy reporting requirements (e.g., unmet needs analyses)
- Respond to transit board directives
- Understand customer needs
- Indicate performance of system
- Identify market niches
- Identify areas of potential expansion
- Identify service and policy improvement needs
- Identify impact of previous service and/or fare changes
- Identify impact of previous marketing efforts

Since this section constitutes an evaluation of previous work, topics presented relate to issues that transit operators found important enough to include in their own survey efforts. These topics do not necessarily directly match, nor are they necessarily relevant to, all issues of concern to this study. The topics presented in this section include:

- Awareness of the Transit System
- Definitions of Riders vs. Non-Riders
- What Riders Say They Want
- Non-Rider Impediments and Enticements to Using Transit

Awareness of the Transit System

How Transit Operators Test "Awareness"

Awareness refers both to general awareness of the existence and image of the local transit operator's services and any "branding" that may be employed, as well as to specific features of the system that are deemed critical by the researcher/transit operator.

There are a variety of approaches used by transit operators to assess the level of transit awareness among members of various target groups. Target groups include the following:

- General public within service area

- Riders in general
- Riders on specific routes/segments
- Non-Riders

Most common question topic areas testing for awareness include:

- Awareness of name of local transit operator
- Awareness of nearest bus/rail stop
- Where respondent heard of transit
- Preferred media/access to media (web, phone, etc.)

The Relationships between Awareness, Marketing and Actual Ridership

Survey results related to "awareness" issues may be viewed either as an indication of need for increased marketing or as an indication of marketing program effectiveness. However, we must be careful not to infer causality where none has been proved (nor even formally addressed). That is, there are no studies within the materials reviewed that suggest an inevitable result (increased ridership) from an increase in marketing and subsequently documented increases in levels of "awareness", much less a certain specific increase ridership levels per dollar or unit of increased marketing effort. Although such improvements in ridership may indeed occur in specific situations and be obviously attributable to an identifiable marketing effort, transit operators seem to agree that there are a number of other factors more important than marketing that enter into the probability of increasing ridership in a target market.

Despite limitations in statewide applicability to locally focused questions on awareness, the information does provide benchmark "awareness" indicators, and also illuminates such issues as respondents' preference for local and regional media, and their radio, TV and newspaper-reading habits.

The following excerpt is a more generally phrased set of probes from Omnitrans. Note that 55% of respondents don't know the name of their local bus service, compared to 41% who identified Omnitrans or other transit operators as their local service provider.

OMNITRANS Non-Rider Results (Telephone Survey)

- **"Can you tell me the name of your local bus service?"**
  - .6% Foothill
  - .4% Metrolink
  - 1.2% MTA/RTD
  - 41% Omnitrans
  - 1.1% Access
  - .9% RTA
  - .8% Other
  - 55% Don't Know
- **"Have you heard of Omnitrans?"**
  - 43% Yes
  - 21% No
  - 36 % Don't Know
- **Are you aware of the Access or Dial-A-Cab service that is available in the San Bernardino Valley?**
  - 41% Yes
  - 58% No
- **Have you ever seen or heard an advertisement for Omnitrans?**
  - 35% Yes
  - 65% No

As indicated above, "awareness" questions have some inherent limitations, including the fact that testing awareness itself indicates neither the accuracy nor the attitude (positive or negative value) of the respondents' perceptions about the transit system. For example, SunLine's SunBus enjoys a name awareness of 77% among the general population, yet many residents believe that SunBus is a social service for lower income people. In this case, a high awareness level masks both an inaccurate and negative perception.

Similarly, rural Lake County's system, Lake Transit, is familiar to 90% of the people surveyed. However, it is perceived as "a great system for those who need it" - i.e., the transit dependent. Those who have cars do not use it, and have no other reason for declining to use the system, except that they own a car. Lake County staff reports:

> *Although we endeavored to argue among ourselves that this response is analogous to saying one does not eat out because one has a kitchen, the fact remains that Lake Transit is viewed as a system for "them" - not "us". Those marketing the system will therefore need to reposition it as a service for "us" as well*. (Pp.6-7, Lake County/City Area Planning Council and Lake Transit Authority Survey Final Report, April 1998)

Definitions and Characteristics of Riders vs. Non-Riders among Transit Operators

Defining "rider" and "non-rider" is challenging because transit agencies do not define "riders" consistently. For example, in its survey of the general population, SunLine categorized anyone who had ridden the bus even once in the previous year, as a "rider", although most transit agencies would classify this group as non-riders. It will be helpful to review the kinds of categories for riders and non-riders that emerge from the existing survey data. Below is a "taxonomy" of riders and non-riders that is used in previous surveys to develop an understanding of transit markets, and provide input into service planning for transit agencies across the state. For the purposes of this study, a third category, "fringe riders" has been added, which includes the market segments that constitute the focus of this study.

RIDERS

- Choice vs. transit dependent (those with and without a vehicle available for a given trip)
- New riders vs. retained/stable/long-term market (longevity is variously defined by transit agencies)
- Ridership frequency:
  - Regular (5 times per week or more--about 65-70% of current riders)
  - Frequent/Moderate (3-4 times per week--about 18-20% of current riders)
  - Occasional (1-2 times per week--about 5-8% of current riders)
  - Infrequent "riders" (can be classified as riders or non-riders)
  - Emergency "riders" (can be classified as riders or non-riders)

NON-RIDERS

- Former riders (those who have already tried and given up using transit for a variety of reasons)
- Staunch non-riders (those who profess a strong antipathy toward using transit)

FRINGE RIDERS (POTENTIAL RIDERS)

- Emergency "riders" (those who ride in emergencies only are also classified by transit operators as either riders or non-riders).
- Infrequent "riders" (those who ride fewer than three times per week are also classified by transit operators as either riders or non-riders).

- Potential riders (those non-riders who are approaching a predictable entry point into the life-cycle of transit use - for example, high school graduates with limited resources who must travel to school or work; people whose vehicle has become unavailable for one reason or another, people who relocate work and/or residence to a transit-friendly environment, etc.).
- Potential ex-riders (those current riders who are approaching one of the predictable exit points from the life-cycle of transit use--for example, people who can now afford a first or second vehicle; those who can now afford the costs of driving alone; those with new child-care trip-making requirements, those retiring from work, etc.).

Characteristics of these Groups

Generally, transit agencies tend to define “riders” and “non-riders” according to characteristics such as frequency and longevity of transit ridership, and auto availability. According to the SunLine Telephone Survey (p. 67), "The best single demographic predictor of becoming a rider is, not surprisingly, not having a vehicle in the household. However, other demographics, including age, income and ethnic self-identification also play an important part”.

Some agencies also characterize “riders” and “non-riders” according to their attitudes or perceptions of public transportation. Of interest is SunLine's 1999 telephone survey classification of "potential riders”. This group, which made up 42% of the respondents (18% were riders, defined as using the bus at least once in the past year; 40% were non-riders), is significantly more likely to agree that:

- It's financially worth taking the bus, even while owning a car
- Traffic delays are a problem
- Parking is a problem

The "potential riders" are also less likely to agree that the bus is a "social service for low-income people”. In addition, potential riders are:

- More likely than riders and especially non-riders, to consider themselves comfortable with others on the bus.
- Just as likely as riders to consider the service as being very good in overall convenience.
- More likely than riders to feel that bus routes they would use are direct and without need to transfer.
- Less likely than riders to feel a high degree of personal safety while waiting for the bus.
- Less likely to feel operational aspects of service are very good, including proximity of the bus stop, frequency of service and duration of trip.

Of course, this shaping of the issue flows from the analysis of stated preferences and attitudes, not actual behavior, but reveals important transportation-related perceptions.

What Riders Say They Want

In contrast to non-riders (whose preferences are discussed below), riders are relatively concrete and fairly uniform in their list of most desired service improvements. Since riders represent the actual customers of transit operators, they are the primary focus of much of the current market survey research. Often this research is couched in questions that elicit opinions and attitudes regarding existing service levels, or new or proposed reductions or improvements to service, and with respect to fare changes. By asking "how are we performing?" transit operators develop a means of monitoring and reporting on their operations, and they, in turn, report this information to transit boards of directors. Thus, survey data serves as a "report card" on the performance of planning and operating staff, and on the system and its operational policies as a whole. Of

course, some of the feedback can be deceptively encouraging because, by definition, "regular" and "frequent/moderate" riders are those people who find the system sufficient for their needs or have no other means of transportation. Surveys across the state reveal that approximately one-half to two thirds of current riders find the existing service in their area "good" or "excellent". Their suggestions for improvement are overwhelmingly concentrated as follows:

- More frequent service (crosses all demographics)
- More "on time" service
- Better timed transfers
- Extended service (nights and weekends)
- Additional routes (to a lesser extent)

A typical set of responses from riders comes from SunLine Transit's 1999 telephone survey, which included riders, non-riders, and potential riders, is excerpted below:

SUNLINE TRANSIT AGENCY: Interest in Selected Service Improvements

Percent scoring 9 or 10, meaning, "it is very important to improve this aspect of service.":

59% Provide shelter at most bus stops
50% Provide express buses
49% Direct service from where you live to destination
47% Provide buses every 15 minutes, not every 30 minutes
43% Provide service until midnight *(highest rated among existing riders, but lowest among general public)*

With respect to potential riders' preferences, the survey report notes that "The rank order of scores is essentially the same as that of riders, with one exception. The exception is that more potential riders rank greater frequency of service higher than riders do. For riders, service until midnight outranks more frequent service". (SunLine Telephone Survey of SunBus Service Area, p. 46, July 29, 1999 Final Report). It is this kind of detailed understanding of individual properties that is both necessary and complicating to an effort to develop a statewide approach aimed at increasing non-traditional transit ridership.

El Dorado Transit's on-board survey results (below) show results similar to those found in SunLine's survey:

EL DORADO TRANSIT (1989 On-Board Survey)

Summary of open-ended responses to probe on desired service improvements:

- Add Saturday and weekend service
- Provide a longer service day with hours extended into afternoon and evening
- Provide shorter service headways (hourly service throughout the day)
- Provide faster and more direct service
- Improve on-time performance
- Improve air conditioning

An examination of the detailed responses from two very different transit operators, below, provides insight into the concerns of transit riders in urban and rural settings, respectively. In the box below, Omnitrans' riders rate the importance of basic components of transit service.

OMNITRANS Riders (On-Board Survey)

Please rate the importance of the following factors to you in choosing to ride the bus.

- **Price**
  - 51% Very important
  - 10. % No opinion
  - 7% Not important
- **Convenience**
  - 68% Very important/Strongly important
  - 6% No opinion
  - 3% Not important
- **Safety**
  - 69% Very important/Strongly important
  - 7% No opinion
  - 3% Not important
- **Comfort**
  - 64% Very important/Strongly important
  - 8% No opinion
  - 3% Not important
- **Reliability**
  - 70% Very important/Strongly important
  - 6% No opinion
  - 3% Not important
- **Environmental benefits (reduce smog)**
  - 58% Very important/Strongly important
  - 15% No opinion
  - 4% Not important

Although the questions asked of Lake Transit riders was different, one can see how much lower on the scale of concern are issues of convenience and cost of service than for Omnitrans riders. Lake Transit riders typify the clientele of rural counties - they are more often elderly, disabled or lack access to a vehicle, in comparison to urban ridership profiles.

LAKE COUNTY TRANSIT

Reasons for Riding the Lake Transit Buses (N = 95 Dial-a-Ride Users; 101 Fixed/Flex Route Bus Riders)

Dial A Ride	Fixed/Flex Route	
32.6%	41.6%	Don't have a car or access to a car
30.5%	54.5%	Bus is only form of transportation/no other transportation
22.1%	2.0%	Need bus because disabled/in wheelchair
12.6%	9.9%	Can't drive
9.5%	7.9%	Can't rely on/don't have/couldn't contact anyone to drive me
8.4%	3.0%	Bus is cheaper than taxi
7.4%	7.9%	Car is broken
6.3%	4.0%	Drivers are positive (nice, courteous, helpful)
6.3%	3.0%	Fares are reasonable/cheap/affordable/inexpensive
5.3%	12.9%	Bus is cheaper than other transportation
4.2%	3.0%	Bus goes where I need to go
4.2%	2.0%	No driver's license
4.2%	1.0%	Don't walk that well/can't walk that far
4.2%	--	Bus is backup transportation
3.2%	2.0%	Can't afford costs associated with owning a car
3.2%	2.0%	Drop off/pick up at home/work/school

Non-Rider Impediments and Enticements to Using Transit

Surveys focused on non-rider attitudes often approach the subject in one of two ways: First, non-riders are asked to provide their own reason(s) for not using transit; second, non-riders are probed to determine the types and magnitude of service improvement or changes required to entice them onto transit.

Why Non-Riders Don't Use the System Now

As seen in the following survey instruments and results reviewed as part of this analysis, it is apparent that transit operators employ a variety of means to discern what transit system attributes might entice a non-rider to become a rider. The top issue among respondents in the SANDAG survey (below) is transit trip time. The first question in the series reveals that approximately 40% of respondents would use public transit only if they had no alternative. Only 19% of non-riders indicated any willingness to try transit at all, on the condition that it was convenient.

SANDAG 1998 RANDOM DIGIT DIAL SURVEY (Non-Riders Crosstabs)

- **When thinking about your willingness to use public transit, such as the bus, how would you complete this sentence? "I would ride the bus if…" (open-ended responses)**
  - 19% If their car were broken
  - 17% If they had to--no alternative
  - 11% If it were convenient
  - 8% If routes were more convenient
  - 5% If no other transportation available
  - 5% Simply unwilling to ride the bus, stating they believed buses were unsafe
- **When it comes to public transit, please tell me if each of the following applies to you, or if it does not apply to you…(rotate)**
- **Service is not available where I live or need to go**
  - 42% Applies
  - 52% Does not apply
  - 6% Don't know
- **The schedule is not convenient for me**
  - 38% Applies
  - 47% Does not apply
  - 15% Don't know
- **I don't feel safe at stops or on board**
  - 25% Applies
  - 66% Does not apply
  - 9% Don't know
- **Public transportation takes too long**
  - 57% Applies
  - 34% Does not apply
  - 9% Don't know
- **There's no way to get to and from stops**
  - 29% Applies
  - 63% Does not apply
  - 8% Don't know
- **Vehicles are in poor condition**
  - 11% Applies
  - 72% Does not apply
  - 18% Don't know

- **I don't need public transportation**

- 67% Applies
- 31% Does not apply
- 2% Don't know

- **I need a car during the day**
  - 78% Applies
  - 21% Does not apply
  - 1% Don't know
- **Public transportation is too confusing**
  - 34% Applies
  - 57% Does not apply
  - 9% Don't know
- **I prefer to drive**
  - 88% Applies
  - 11% Does not apply
  - 1% Don't know

In contrast to the common categories for not riding that were supplied by the SANDAG survey instrument (above), Lake County Transit used an open question format (wherein the respondent supplies the answers). By using that format, Lake County was able to capture additional facets of non-rider attitudes and values:

LAKE COUNTY TRANSIT (Non-Rider Survey N= 331 Non-Riders)

Reasons for Not Riding the Lake Transit Buses

Percentage	**Reason Given**
19.3%	Have car--no other reason
12.4%	Come and go as please/car is there when I need it/go where I want to
8.5%	Don't know much about it/time schedule/no chance to ride it yet
7.9%	No service where I go
6.9%	Carpool/friends or family drive
5.1%	Don't want to wait for the bus
5.1%	Bus stop is too far from home
4.8%	No service near home
3.6%	Car is quicker/bus takes too long
2.7%	Live out of town
2.1%	Live close to work
2.1%	Bus is waste of money/think car is cheaper
1.8%	No service near work
1.8%	Too hard for elderly/disabled to use
1.8%	Need car--have dogs/children
1.8%	Need car for work
1.5%	Don't think bus would get me there on time (reliability issue)
1.5%	Just never have used bus
1.2%	Prefer bicycling/walking
1.2%	Live close to everything--no need for bus
6.9%	Other

What Would Entice Non-Riders to Use the System?

In the past, it has proven difficult to lure non-riders into transit modes, especially onto buses. Below is a sampling of the most relevant survey results relating to the issue of attracting non-riders to transit. The Omnitrans survey breaks down the question of what would bring non-riders onto transit into two sets of questions. The first set relates to factors the non-riders view as important.

OMNITRANS Non-Riders (Telephone Survey)

Please rate the importance of the following factors to you in choosing to ride the bus.

- **Price**
  - 63% Very important
  - 8% Don't know
  - 3% Not important
- **Convenience**
  - 67% Very important/Strongly important (another 19% moderately important-three times higher than riders group)
  - 8% Don't know
  - 2% Not important
- **Safety**
  - 71% Very important/Strongly important
  - 6% Don't know
  - 2% Not important
- **Comfort**
  - 58% Very important/Strongly important (another 22% moderately important--twice as high as riders group)
  - 12% No opinion
  - 3% Not important
- **Reliability**
  - 70% Very important/Strongly important (another 16% moderately important--nearly twice as high as riders group)
  - 7% Don't know
  - 2% Not important
- **Environmental benefits (reduce smog)**
  - 55% Very important/Strongly important (another 24% moderately important-three times higher than riders group)
  - 12% No opinion
  - 2% Not important

The second set of questions (below) asks respondents to rank service improvements according to the likelihood that such an improvement would result in actual transit usage. It is important to note the consistent "don't know" response (across all service improvements tested) - half to two thirds of respondents cannot commit to using the "improved" service. Thus, making expensive service improvements may not result in appreciable increase in ridership.

OMNITRANS Service Improvement Ranking Questions

On a scale of 1 to 7, with 1 meaning "Definitely Would Not" and 7 being "Definitely Would", please indicate if each of the following individual service improvements is likely to make you regularly ride Omnitrans.

- **Routes were closer to home or work**
  - 20% Definitely would not (1-2)
  - 66% Don't know (3-5)
  - 14% Definitely would (6-7)
- **Buses ran more often**
  - 20% Definitely would not (1-2)
  - 54% Don't know (3-5)
  - 15% Definitely would (6-7)
- **Service was faster or more direct**
  - 20% Definitely would not (1-2)
  - 64% Don't know (3-5)
  - 16% Definitely would (6-7)

- **Buses were on time**
  - 16% Definitely would not (1-2)
  - 62% Don't know (3-5)
  - 29% Definitely would (6-7)

The difficulty in attracting "choice" riders to transit, absent service that is perceived as equivalent to the automobile, is described by the LACMTA, below.

LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY (LACMTA)

Attracting Non-Transit Dependent Riders

> "Residents of Los Angeles usually 'drive alone' to commute to work, to shop, to go to school, for medical and/or social visits. Most of the respondents in the Household Telephone Survey (about 56%) said they do not use transit because they own a car or they simply have no need to ride transit. **To be attracted to transit, these non-riders would need the perceived value of transit to equal their current mode"**. (Emphasis added; p 15, LACMTA Phase I SPMRP Summary Report)

The LACMTA survey determined that in order to consider transit as a potential travel option, transit must be comparable in some ways with the automobile. In order to meet this important challenge, transit agencies should conduct additional segment-specific research to identify service-related elements that would need to be improved or enhanced to attract and retain potential riders.

Another key issue cited by the LACMTA is the "low-income" stigma of using transit. Approximately one-third of the respondents to the telephone survey described bus riders as "low-income" and people "with no vehicles". Another 20% characterized bus riders with additional negative traits, such as "crazy/strange" or "rude/offensive".

In synch with the general profile of non-riders, the non-rider respondents to LACMTA's survey also deemed transit as personally "unsafe" or "very unsafe". With respect to service itself, non-riders ranked "travel time compared to auto" and "availability of schedule information" as "of high importance" - but did not find these needs to be adequately satisfied with existing service.

Presented below are important findings from an extensive and innovative market segmentation study intended to identify the needs and preferences of distinct groups within the San Diego area commuting population.

TRANSITWORKS MARKET SEGMENTATION STUDY (N=746 COMMUTERS, BOTH RIDERS AND NON-RIDERS (SAN DIEGO METROPOLITAN TRANSIT DEVELOPMENT BOARD/NORTH COUNTY TRANSIT DISTRICT, JANUARY 2001)

Statements below listed in order of their relative weight in creating the attitudinal construct:

1. Need for flexibility and speed reflects respondents' need to make trips to multiple locations each week, the flexibility to make multiple trips in a single day, and their willingness to pay a higher fare for convenience.
2. Sensitivity to personal travel experience corresponded to travelers' sensitivity to delays, their view of other transit users as different from themselves, the linkage between mode choice and social status, and travelers' preference for the freedom to drive by themselves.
3. Sensitivity to personal safety included statements that expressed travelers' desire to avoid certain places and situations and their increased likelihood of feeling insecure.
4. Concern for the natural environment reflected travelers' belief that transit usage can help the environment and their corresponding willingness to change mode or to pay more in order to protect the environment.
5. Sensitivity to transportation costs included statements about the trade-offs between cost and travel time that travelers are likely to make when choosing a mode.

6. Sensitivity to crowds reflected travelers' desire for privacy and the trade-offs between crowding and speed associated with everyday commutes.
7. Sensitivity to stress reflected travelers' attraction to a short walk and the scheduling of trips so that the stress associated with everyday commutes could be minimized.

The first two factors were by far the most important factors used to distinguish among the following six distinct market segments:

Market Segments	*Major Attributes*	*% of Local Population*	*% of Local Transit Ridership*
Road Runners	**High need for flexibility and speed, sensitivity to the personal travel experience.**	12	5
Cautious Roundabouts	**High need for flexibility and speed, but indifferent to the personal travel experience; distinguished from Intrepid Trekkers (see below) by their concern for personal safety.**	12	9
Intrepid Trekkers	**High need for flexibility and speed, but indifferent towards the personal travel experience.**	14	9
Flexible Flyers	**High need for flexibility and speed, but low sensitivity to the personal travel experience.**	4	18
Conventional Cruisers	**Low need for flexibility and speed, but high sensitivity to the personal travel experience.**	40	14

2.2.5. AREAS FOR FURTHER MARKET SURVEY RESEARCH

Since any survey effort is necessarily limited in both sample size and survey length, it is crucial to focus and maximize survey resources to obtain the desired results. In order to develop the Department's statewide transit telephone survey (Task 4), the consultant team conducted a review and comparison of previous transit operator surveys with the final version of the survey questionnaire to decide whether to eliminate, retain, revise, add, or expand upon specific items in the questionnaire. The main purpose of the comparison was to identify needless duplication of effort through elimination of redundant survey topics. In addition, the evaluation of previous transit operator surveys identified gaps in data and understanding that need to be addressed through additional market research.

The analysis shows that there were questions in the draft survey questionnaire that appear to have been answered sufficiently over the years and across the state to provide a comfort level of understanding of the respective issues. It is customary for most transit operators to conduct customer satisfaction surveys, using on-board surveys, ridechecks, comment cards, and other tools. As a result, most of the data collected from previous transit operator surveys relates to current riders rather than non-riders.

In some cases, the questions within the Department's draft survey questionnaire were not asked at all, or they were asked by very few survey efforts. In other cases, questions in previous survey efforts were not asked as explicitly as they are in the Department's draft, and thus yielded less robust results than might otherwise be the case. The analysis indicates that transit operators generally are lacking information relating to policies and factors that impact travel behavior: One question set examines impact of parking cost and availability, traffic congestion, and cost of driving on travelers' propensity to use transit. These issues are appropriate subjects for public policy and legislative action within the State of California. In addition, transit operators are lacking information relating to non-riders' perceptions about public transportation. Questions 42-51 contain the heart of the issue that the Department is exploring: "Why don't non-riders use the system at all, or why don't infrequent riders use it more?"

JNTC suggests the following additional question sets and probes:

- System connectivity issues: Transit agencies lost ridership when they discontinued service to large destinations, particularly San Francisco. What used to be a single bus ride now takes transfers to other carriers. Agencies that dropped feeder busses and routes made access to a line-haul commuter route difficult. This is an area where the Department may have policy and funding assistance to "fill in the gap" and help the statewide system re-establish connectivity across jurisdictions.
- Perceived adaptation of service to changes in community needs over time: Surveys reveal some transit agencies fail to change with the times, fail to recognize shifts in demographics, tastes, preferences and travel needs. "Buses look the same, nothing's improved, no new routes, no new service."

2.3. MARKETING PLAN REVIEW AND ASSESSMENT: METHODOLOGY AND OVERVIEW

2.3.1. COMPILATION OF MARKETING PLANS AND PRESENTATION OF INFORMATION

In order for the Department to share meaningful information with transit operators and MPOs, it is important to develop an understanding of what kinds of transit marketing planning and implementation is currently being conducted. Most transit operators do engage in some sort of marketing plan effort, although not all. In order to develop a menu of recommended innovative and effective marketing options for potential implementation, and to spark creative investigation into new marketing strategies, the documents received as part of the data collection effort have been scoured for marketing and promotional strategies. This effort helped the consulting team determine what is being done to market transit statewide. An analysis of marketing plan goals, objectives, strategies, and related issues is detailed below.

2.3.2. LEVELS OF MARKETING EFFORT

A preliminary indication of the variation in levels of marketing effort among transit operators is evident from reading a sampling of operators' stated marketing goals and objectives. Although most agencies list marketing strategies, goals, objectives, or even provide complete marketing plans, it is unclear to what extent implementation, funding, monitoring and evaluation of such plans have occurred. For example, some marketing "plans" are couched in conditional terms - "e.g., the agency *should* conduct ongoing market research…the agency *should* develop a comprehensive plan to communicate with riders…the agency *should* aggressively market to identified potential users…."

Further, though some agencies develop an annual marketing plan including goals and objectives, they may fail to identify and fund specific programs designed to achieve objectives outlined. Implementation schedules and accountability feedback loops are often missing. With limited budgets and a need to satisfy competing management directives, operators may be tempted to overcommit resources, or to overstate probable or intended outcomes of marketing efforts. Operators rarely allocate more than 2-3% of the operating budget for marketing, and consistently face budget-related shortfalls in the development of marketing-related plans and programs.

In contrast, some transit operators do not need to market their services to any significant extent at all. Agencies such as BART noted that ridership increased at an unprecedented rate during FY00, setting new record highs. Weekday trips averaged 327,900 in March of 2000--13% over the adopted budget for that month and 14% higher than one year earlier. On game days, ridership can top 347,000 with the opening of

new San Francisco Giants PacBell Park in the South of Market area of San Francisco. Much of the new ridership can be attributed to a severe parking shortage, high costs of parking, increased road congestion, as well as bridge tolls. These gains in ridership occurred without assistance from marketing - it was entirely demand driven. In addition, its dedicated right of way gives BART a time advantage over regular bus operations in congested commute corridors.

2.4. CLASSIFICATION AND ANALYSIS OF TRANSIT MARKETING ELEMENTS

2.4.1. CURRENT MARKETING GOALS AND OBJECTIVES AS ARTICULATED BY OPERATORS

General Transit System Marketing Goals

Marketing is more than advertising, and a marketing program consists of more than the activities commonly associated with marketing (such as outreach, printed materials, signage, and so on). However, the first step in any marketing plan or program is to identify the goals of the agency, and determine how the marketing plan can assist the agency in reaching those goals.

Examples of sets of goals that typify transit operators in California are excerpted below.

Some transit operators have expressed a need to use marketing to increase ridership on underutilized local circulator routes, as opposed to well-utilized commuter routes. One variation on the need to use marketing to focus on a specific service offered is illustrated in the case of El Dorado County Transit Authority. The agency specifically acknowledges its modest budget and its interest in shifting large subsidy riders to modes or services that require reduced levels of subsidy:

EL DORADO COUNTY TRANSIT AUTHORITY

(marketing plan, which is referenced and summarized in the August 1995 El Dorado County Long Range Transit Plan Final Report (pp. 132-134).

A major goal of the plan is to:

- Develop a focused marketing effort with a modest budget, to ensure effective use of fixed-route and checkpoint services (where additional passengers typically do not incur additional subsidy needs) while encouraging a shift to these services from the demand-response services (where additional passengers require additional subsidy).

Contra Costa County proposes leveraging good community and business relationships to help meet its goals, including a ridership target increase of 5-8%:

CONTRA COSTA COUNTY

Contra Costa County's marketing goals:

- Implement marketing and awareness strategies that, with support of all CCCTA divisions will result in ridership increases of 5-8%.
- Manage the challenges facing County Connection without reducing our current level of customer service.

- Develop more and stronger business and employer relationships.
- Strengthen relationships with youth through increased outreach to middle and high schools.
- Maintain and nurture positive relationships with local and regional media representatives.
- Continue to work in cooperation with neighboring transit agencies in marketing and customer service capacities to deliver a comprehensive message to the public.
- Continue to seek funding opportunities to augment the marketing budget.
- Continue to review and evaluate success of marketing projects.

Foothill's Marketing Plan FY 2001 is aimed at a "primary audience" (off-peak riders utilizing the system for recreational or social purposes--Asian, African-American and Hispanic) and its "secondary audience", which includes adults, 25-44, employed or in school, both white and blue collar, all ethnic groups, seniors and the disabled. While also acknowledging the need to address customer retention with respect to the two defined audiences, Foothill has determined its FY 2001 marketing objectives as follows:

FOOTHILL TRANSIT

The Marketing Department exists to support and promote Foothill Transit's services. The primary responsibility of the department is to communicate information to existing and potential customers and encourage them to ride Foothill Transit. This is done through advertising, community relations, media exposure, special events, rider alerts, interior cards, and the Busbook. The Marketing Department is responsible for heightening the public's awareness of Foothill Transit and increasing ridership **(**Foothill Transit FY 2001 BUDGET BOOK Marketing p. 37).

- Increase ridership.
- Maintain solid community outreach program.
- Expand Welfare to Work partnerships.
- Establish a customer database.
- Market the newly built Citrus Park and Ride Lot.
- Continue implementation of the Transit Store marketing and retail plan.
- Expand into the Disabled Community.
- Conduct a Media Preference and Community Profile Survey.

Foothill outlines its goals, (some of which are actually performance-based marketing strategies) related to the above objectives, as follows:

- Conduct line-specific campaigns on underutilized lines.
- Increase ridership on underutilized lines by 2%.
- Increase Metrocard sales by 5%.
- Increase Transit Store pass sales and in-coming 800 calls by 2%.
- Participate in a minimum of 65 community, cultural, school and rideshare events.
- Develop two corporate co-op partnerships.
- Increase pass sales outlets by 6% (approx. four).

One example of marketing goals relative to promotion of "non-rider" transit use is provided by **Lake Transit,** which states that it wants to increase ridership in currently, underrepresented demographic groups. This would mean, in its specific case, "communities other than Clearlake (to the extent geographic permits), relatively longer-term residents, those in their middle years, and men…" (p. 8 Survey Final Report, April 1998). One may question, however, the efficacy of targeting these groups, which are extremely reluctant transit riders even where fixed route deluxe express service is available. (Lake Transit does not offer such service; in fact it has very limited fixed route service).

SANDAG's goals and objectives reflect a concern about automobile impacts, as it factors in land use and livable communities:

SANDAG/ METROPOLITAN TRANSIT DEVELOPMENT BOARD (MTDB)

FY 1999 Transit Development Goals and Objectives:

- Transit Development Goal #1: Increase transit ridership (both in terms of total and per capita ridership) in order to minimize the adverse impacts of the automobile.
- Transit Development Goal # 2: Increase the quality and quantity of public transportation to provide a means of travel for those without automobiles; offer a viable alternative to the automobile, and enlarge the total capacity of the metropolitan area's overall transportation system.
- Coordination objective #17c: The annual Marketing Plan should be developed, updated, and implemented through the Regional Marketing Group, consistent with the needs and financial resources of all area operators.

Shasta County has concerns that echo El Dorado Transit's issues regarding the high cost of demand responsive service:

SHASTA COUNTY REGIONAL TRANSPORTATION PLANNING AGENCY

As background, 1990 Census figures show only 0.62% of work trips by bus in Shasta County. 81% drove alone; 9.63% carpooled; 2.65% walked; 0.60% rode a bike.

- Concerned with controlling costs of providing required Demand-Response service in accordance with Transportation Development Act regulations.
- Objectives include increasing the use of the existing transit system for commuting and for other trips that would normally be made with an automobile; obtain maximum transit and paratransit system efficiency by continuously monitoring transit needs, performance, funding and capital requirements.

SOUTH COAST AREA TRANSIT (SCAT)

Although the March 2000 Public Transit Service Delivery Plan includes discussions of an on-board survey and plans to address pent-up demand, there is no clear articulation of either goals or objectives related to marketing efforts. This may be due to that fact that there is so much demand for new service that it cannot be accommodated, and that projected population growth will only exacerbate this situation.

The Marketing Program for Siskiyou County is presented here at length (SRTP, Marketing Program, pp. 138-143), because it illustrates the desire on the part of transit operators to conduct good marketing programs with a quality product, and also illustrates why that is so difficult.

SISKIYOU COUNTY SHORT RANGE TRANSIT PLAN

Marketing in its broadest context should be viewed as a management philosophy focusing on identifying and satisfying customers' wants and needs. The basic premises of successful marketing are providing the right product (or service), offering it at the right price, and adequately promoting or communicating the existence and appropriateness of the product or service to potential customers. Unfortunately, for too many persons, the word "marketing" is associated only with the advertising and promotional efforts that accompany "selling" the product or service to a customer. Instead, such promotional efforts are only a part of an overall marketing process. Without a properly designed and developed product or service

offered at the right price, the expenditure of promotional monies is often ill advised.

Obviously, the marketing program must fit within budgetary limitations of any organization. According to the American Public Transit Association, transit operators typically budget between 0.75 and 3.0 percent of their gross budget on marketing promotions (excluding salaries). Although this is less than most private sector businesses, public sector organizations can rely more heavily on media support for their public relations programs.

Insufficient (and inadequate in terms of the schedules) marketing of transit services has been a drawback to the ridership potential of transit within Siskiyou County. As a point of comparison, STAGE spent approximately $1,449 during FY 98/99 for public relations/advertising, which equates to less than one percent of their gross budget (excluding salaries and benefits).

Improve Service Quality

A key precept of marketing is to provide a quality "product". In the case of public transit, a reputation for providing quality service both encourages increased ridership and increases public support for transit. Both tax-based funding and fares become more acceptable when service quality is high. A key marketing effort, therefore, is to begin other measures to improve on-time performance, improve passenger amenities, and improve peak load capacities. This effort is undoubtedly the most important marketing strategy available to STAGE.

Marketing Initiatives

The following marketing initiatives are common in the transit industry and STAGE should consider utilizing various strategies, including:

- Distribution of schedules and posters at major facilities, retail outlets, doctors' offices, social service agencies, lodging facilities and restaurants;
- Regular radio advertisements that emphasize any current promotions that are underway;
- Newspaper advertisements that emphasize the same promotions as the radio advertisements;
- An ongoing program to promote communications between passengers and drivers;
- A clean bus program, where the interior and exterior of each vehicle is cleaned every morning. During the course of the day, drivers clean up litter in the aisle and under the seats.

2.4.2. General Marketing Strategies Contained in Documents Reviewed

Marketing efforts and strategies employed by the transit operators and MPOs include several or many of the following components:

System Identity and Messaging

- Name and logo (fundamental to using the service, but may also be used in "branding" special service)
- Bus stop signage
- Shelter signage
- Messages designed to get change in behavior:
  - Quality of service
  - Safety of service
  - Reliability of service
  - Dedicated employees (image of provider)

Passenger Information

- System Map (Route and Service Schedule)
- Transit Information Guide
- Wide Distribution Network
- Telephone Information
- Yellow Pages Advertising

Advertising Strategies and Modes

- Paid Advertising (newspaper, radio, movie screen ads)
- Non-paid advertising (community newsletters, community bulletin boards, utility bill insert/message
- Radio public service announcements
- Direct distribution
- Local cable TV
- Distributing schedules to appropriate locations
- Regular media events

Service Related Marketing

- New service
- Service modifications (expansions or reductions in routes or hours)
- Fare changes
- Special fare offers
- Fare media changes (passes, electronic passes, etc.)
- Special issues (introduction of FasTrak electronic tolling on carpool lanes, e.g.)

Special Promotions or Innovations

- Summer Bring-a-buddy promotion
- Joint promotion with down businesses and major employers
- Fair promotion
- Tickets sales
- Holiday shoppers
- Special Event marketing
- Efforts to partner with business community
- Special promotions such as a "free ride day" or 25-cent ride days
- Phone book covers
- Seasonal promotions
- Bus rodeo

Marketing Targeted to Specific Audiences

- Seniors and Disabled
- Presentations to social service agencies, convalescent and retirement homes
- Commuters
- Presentations to employee groups; Transportation Management Agencies
- Internet/website

- Low-Income families
- Presentations to social service agencies; work with agency staff to inform them of transit opportunities
- College/Adult students
- Elementary and Secondary school students
- Inform students about proper bus etiquette and safety
- After school bus pass
- New residents
- Inserts (system map and free passes) in utility bill/follow up phone call
- Tourists

2.4.3. MARKETING STRATEGIES OF SELECTED TRANSIT OPERATORS/MPOS

Marketing Focus on Current Riders

Amador Regional Transit has developed a personalized approach to retaining regular riders, and attracting occasional riders, suited to its size and rider demographic, which may or may not be entirely applicable to more urbanized contexts:

AMADOR REGIONAL TRANSIT SYSTEMS (ARTS) (JACKSON, CA)

Strategies to Attract and Retain Regular Riders

- Increase visibility of ARTS in the community (Rider's Guides, brochures, color-coded bus routes, bus stop signs, etc.).
- Make transit information more easily available.
- Distribute Rider's Guide to social service agencies and community organizations.
- Provide and promote personal trip planning.
- Establish a travel training program.
- Pursue partnerships with social service agencies and community organizations to increase the mobility of their clients by using ARTS.
- Promote competitive contract service.
- Provide leadership and lend expertise in the development of social service transportation programs and projects.
- Train social service agency staff members to use ARTS.

Strategies to Attract Occasional Riders

- Make transit information easily available to occasional riders.
- Provide and promote personal trip planning by phone.
- Provide route and schedule information at high activity bus stops.
- Place ARTS service information in community resources, like local telephone books.
- Establish highly visible transit information displays.
- Establish ARTS as a member or attendee at governmental coordinating bodies and community organizations.
- Attend monthly meetings of Amador County Council on Children and Families.
- Attend monthly meetings of the senior services Board of Directors and other community organizations.

With a wide network of cooperating agencies and groups, SANDAG is able to provide a comprehensive array of marketing strategies. Assisting SANDAG is the San Diego Marketing Alliance for Ridesharing and Transportation (SMART). SMART, composed of staff from SANDAG, area operators including MTDB, and APCD, RideLink and TMAs, meets monthly to develop regional marketing strategies.

SANDAG/METROPOLITAN TRANSIT DEVELOPMENT BOARD (MTDB)

Public Information and Marketing

- Printed materials to explain and promote service
- Website www.sdcommute.com - how to use transit, fares, transfer procedures, special services, service area coverage, individual route maps, schedules
- Regional Transit Information Service - SDTC provides telephone transit info for all fixed route transit operators in San Diego County. Both personal operator-assisted calls and automated calls. ATIS (automated trip information system) assists trained operators in providing best travel plan possible. Automated service is "InfoExpress"
- Transit Store (joint project of SDTC and MTDB) provides visitor info, all forms of fare media, issues Senior, Disabled, and Youth ID cards, handles 300,000 customers annually. Downtown San Diego
- Community Promotions and Partnership
- Sales outlets and marketing in Tijuana, Mexico;
- MTDB works with downtown SD business improvement districts to promote transportation solutions to traffic and parking problems
- Welfare to Work coalition
- Community festivals and events
- Chargers games/Padres

Service Strategies (1998-99 study)
Analyze market-driven approach service strategies to developing and pricing services incl. innovative restructuring of service, improving cost accounting systems, enhancing customer information systems.

Marketing Initiatives
Customer Assistance
Acquiring new customers and retaining current customers is, in part, a function of the level of the public's confidence in using the transit system. Possible staff efforts should include an analysis of customer assistance needs and innovative solutions for addressing them, such as ongoing station ambassador programs or new technology that is user-friendly and provides relevant information.

Simplifying Fares
New fare initiatives created over the past year have increased the number of options, so that riders can choose the fare media, which suits them best. Unfortunately, this larger set of choices has been accompanied by greater confusion, as many consumers do not understand many of the fare media being offered to them. A study needs to be conducted of the forms of fare media, their names and their pricing, in order to better balance choice with simplicity.

Market Research
Effective planning requires good market data. Thorough and timely market research, data collection and analysis should be key components of MTDB's basic infrastructure. Experienced and knowledgeable researchers should be available on staff, or retained on an ongoing basis. Eventually, market research should drive our planning work so that what we spend staff time on is relevant to the desires and needs of the public we serve.

SANDAG/METROPOLITAN TRANSIT DEVELOPMENT BOARD (MTDB)

Public Education

MTDB should have a comprehensive plan for educating the public about benefits and values of public transit. This plan would likely have different components for different segments of the population, in order to be able to cater it to their specific interests. It should include an organized speakers' bureau, thorough information kits and a public education strategy.

Sacramento Regional Transit District appears to emphasize customer relations in its selection of marketing strategies:

SACRAMENTO REGIONAL TRANSIT DISTRICT (RT)

- **Service promotion**
  - Brochures, flyers, posters, specific route promotions, interior car cards
  - Monthly newsletter to approximately 9,000 riders
  - Informational material on service and service changes
  - Some targeted to specific routes and specific neighborhoods
- **Accessible Services Outreach**
- **Customer Relations**
  - Corporate partnerships with major employers, transportation management associations (TMAs,) Employee Transportation Coordinators (ETCs)
  - Partnerships with public agencies, including Sacramento Area Council of Governments (SACOG), Pacific Gas & Electric, Sacramento Municipal Utility District, Sacramento Metropolitan Air Quality Management District, Friends of Light Rail, Downtown Sacramento Partnership
  - Extensive school outreach, from elementary to college, including faculty and staff
  - Participation in 20+ annual events
  - Federal grant funding for FY 00 and 01 for "Access to Jobs" program
- **Fare Promotions and Incentives**

Contra Costa County identifies its participation in MTC's Regional Transportation Marketing Program as one of its strategies, underscoring the importance and relative impact of regional marketing for local operators. Note that the strategies below also relate to non-riders in some cases, or to new members of existing markets (new commuters, new students, and on the pre-senior population).

CONTRA COSTA COUNTY

- System-wide Marketing Programs (Electronic Media, New Residential Marketing, Newsletters to employers)
- Targeted Marketing Programs
  - Commute market is most critical: 25-54 age group. Get them familiar with fixed route service and know how to use the service, so they will be less likely to become completely reliant on paratransit when they are seniors.
  - Commute market most dependable, but most unpredictable and fluid. Relocation, changing jobs, buying cars, and altering routes and times.
  - Consistent, broad-based efforts like New Resident Program
    - Direct mail
    - Radio—low cost
    - Student markets

- Coordinate with and participate in Regional Marketing Efforts (MTC); regional transit web; promotion of regional transit telephone number; participation on technical advisory committee for regional transit trip planning/regional transit database project; vanpool and carpool incentives, guaranteed ride home, commuter check, Regional Transit Clearing House.
- Special Services/Internal Promotions
- Public relations activities—celebrate 20th anniversary

With years of experience, and facing tough financial times, it is no surprise that many agencies do not put effort into marketing to non-riders. The passages below help to explain why. The case of SunLine Transit was used to illustrate the point that there are different concerns that must be addressed if one is trying to retain existing riders, rather than attract new ones. It will be useful to further explore that case and excerpt from SunLine's final report in order to demonstrate the kind of policy tradeoffs and service decisions a transit operator is called upon to make:

SUNLINE TRANSIT AGENCY

> "To the potential rider, late night service is not as important as these other more generalized priorities. However, the onboard study showed how important the extension of service until later at night is to existing riders. *Because it is important to satisfy existing customers first in order to retain them longer, it is important not to allow the contrary priorities of the potential riders to obscure the clear interest of existing riders in this service improvement*. This is especially true since most potential riders would be very demanding discretionary riders, and it would take many more resources to attract them to using transit than it would to win more trips from existing riders by extending service hours." (SunLine, July 29, 1999 Draft of Telephone Survey, p. 68, emphasis added.)
>
> "From a marketing perspective, there are several reasons that it is more important to increase utilization by existing customers than it is to win new customers. First, it is less costly in marketing terms. Second, running service later in the evening would be less costly in time and money than the kind of direct service and more frequent service potential riders say they want. Third, the potential riders would be less frequent riders than the riders now using the SunBus service." (ibid., p. 47)

In a similar vein, it is also worthwhile to quote Kings County's August 1998 Transit Development Plan:

KINGS COUNTY AREA REGIONAL TRANSIT (KART)

If projections are accurate, KART will continue to increase ridership up to and beyond the year 2003. *KART's marketing program has been targeted to reach those who are consistent KART riders regarding changes in scheduling and fares. "Word of mouth" referrals for KART service have been a significant part of KART's yearly growth. However, KART's marketing program up to now has not attempted to gain new riders who had not been transit users in Kings County. They identify those non-targeted groups as higher income residents, single women with children, regular bicycle riders, and commuters within city limits.*

KART management, through direction from the KCAPTA Board, will need to address its future marketing efforts for potential increased riders, per the costs of new marketing. KART has been successful in providing transit service for groups who once had unmet transit needs. The active soliciting of *new* service and routes will be a significant departure from KART's past marketing programs. A more significant ridership increase, as a result of successful marketing to new transit groups, could adversely affect KART's ability to provide service to its core ridership base including the elderly and the physically disabled. KART's reputation for being flexible and responsive to transit patrons could become more difficult to maintain. KART must ask these questions in developing a new marketing strategy:

1) Who are the groups not previously served by public transit?
2) What will be the financial costs of developing an expanded marketing program?

3) What would be the ability of KART to handle increased ridership as a result of successful advertising?
4) What would be the estimated costs of new equipment and personnel in relation to significant ridership increases?

(Kings County's August 1998 Kings County Transit Development Plan, p. 66, emphasis added)

Finally, some services are so responsive to a current demand that there is no need for marketing, as is the case with respect to the success of the Altamont Commuter Express (ACE):

SAN JOAQUIN COUNCIL OF GOVERNMENTS/ALTAMONT COMMUTER EXPRESS

"…ACE operates at about 85 percent of capacity without any marketing efforts. Marketing efforts might lead to overcrowding on the service."

(San Joaquin Council of Governments' staff report (May 2000)

Marketing Strategies Specifically Targeted to "Non-Riders"

Although this section presents some of the relatively limited instances of marketing strategies aimed at "non-riders" or "non-traditional riders", readers are reminded that operators do not adhere to a single, uniform definition of these groups. The transit operators' inconsistent definition of the terms is reflected in the variety of labels used to characterize these groups:

- Non-riders
- "Gatekeepers"
- Under-served social service clients
- Potential "choice" riders
- Those in under-represented demographic groups
- Future customers

Amador Regional Transit (ARTS) lists communication strategies specifically targeted at "non-riders" and "gatekeepers"--though it is not clear how effective these might be:

AMADOR REGIONAL TRANSIT SYSTEMS (ARTS) (JACKSON, CA)

Strategies for Communicating with Non-Riders and "Gatekeepers"

- Implement an aggressive public relations program
  - Develop and execute a news release calendar
  - Solicit feature stories with local news media
  - Submit public service announcement for events, new service and service changes

ARTS have also identified social service clients as their target market: To illustrate the connection between service and ridership, the results of a workshop are provided below. There is opportunity for attracting new riders/more ridership if service gaps are addressed.

AMADOR REGIONAL TRANSIT SYSTEMS (ARTS) (JACKSON, CA)

Gaps in service identified at Transportation Workshop, May 19, 1999

- Transportation for welfare-to-work clients and their children
- Transportation to get ARC clients to work
- Need for inter-county transit service
- Transportation needs of low income women to get to doctor and pediatric appointments and to pick up clothes, diapers and other needed items from the Pregnancy Help Center

- Need to bring people from Calaveras County to Amador County
- Difficulty finding work and affordable housing in Amador County
- Transportation to the medical center
- Transportation for seniors to medical care in the Sacramento area
- Transportation on evenings and weekends
- Need to disseminate information to seniors about transportation alternatives to the private car
- Transportation to Sacramento for children

The group then proposed new projects. Although not all of these translate into testable marketing and service improvement strategies, they are listed here because some are the types of strategies that can be packaged for testing, since they have been identified by transit agencies and their customers in concert. The vagueness of some of them also identifies an opportunity to increase effectiveness with assistance from marketing professionals.

- Subsidized volunteer drivers
- Pooling social service transportation resources
- Targeted marketing, transportation information dissemination and signage
- "The Word Out and the Riders On"--broad based project to disseminate info; goal is to increase transit ridership on ARTS to 12 passengers per hour
- Place a bus stop sign at each bus stop
- Post route information at each stop
- Put ads for transit at the DMV office
- Reformat the existing schedule into a simple and understandable format
- Publish route information in the newspaper
- Public route information in the phone book
- Place bus shelters at major stops
- Do information mailings to social service agencies, churches and other community organizations
- Color code the bus routes
- Develop a travel training program in coordination with social service agencies (visual impaired, physically disabled, developmentally disabled and seniors)
- Develop a Community Transportation Guide booklet which includes ARTS
- Send public service mailers enclosed in PG&E or Pacific Bell bills
- Have ARTS participate and provide information at community events such as the County Fair and Sheriff's Day
- Sell advertising space on ARTS buses using "wrap" paint jobs
- Develop specialized routes to get people to appointments or express routes to serve residents traveling to Sacramento and to other job locations
- Advertise the phone number equivalent to 223-BUSS, i.e., 223-2877
- Limited demand response service
- Purchased transportation service with a possible blending of clients
- Vans used for transit service as an alternative to buses

Santa Barbara County Association of Governments is currently focusing on "choice riders" as opposed to "transit-dependent riders". Its 1999 Regional Transportation Plan (pp. 3-57 to 3-58) includes the following observations relative to the need to increase service to accomplish agency goals:

SANTA BARBARA COUNTY ASSOCIATION OF GOVERNMENTS

An important measure of transit's success is providing a viable, alternative mode for commuters and the ability to attract choice riders. "Choice riders" are non-traditional transit users; those who have an automobile, but choose to use transit, thus affecting a mode shift for these individuals. To encourage such a mode shift, transit must become more competitive with the automobile; to do this, transit service must be expanded (both in route coverage and service duration throughout the day) and made more convenient (e.g., more frequent service through shorter headways).

Finally, two transit operators' marketing strategies are discussed, as they relate to the "non-rider" group, variously defined.

Sacramento Regional Transit (RT) has marketing goals that place unusual emphasis on "future" customers - another perspective on "non-riders" or non-traditional riders.

- Develop a market research program in the future.
- Find out who its future customers are, how to attract and retain them
- Use market research as tool to set goals and redesign services

Specific recommendations drawn from the results of the 1998 **SANDAG** Transit Survey Report (pp. 35-37) with respect to increasing ridership among traditional non-riders, were as follows:

- Focus on an incremental strategy to increase ridership--particularly for bus ridership
- Promote a "we're there when you need us" strategy for emergency-only riders
- Consider a "Park and Ride" strategy that allows people to "use their cars" before work and after they ride public transit
- Appeal to availability of personal car immediately before and after public transit use--by making park and ride lots available, and marketing them *(Note: This is a strategy that is within the control and ability of The Department to impact in a significant, positive manner.)*
- Those who ride transit regularly are not likely to increase dramatically at once
- Pursue multiple strategies
- Highlight non-bus modes when talking about public transit
- Linking all forms of transit together elevates the type of transit respondents view less favorably
- Use testimonials from business or professional people
- Promote community value of public transit

Regional "Umbrella" Marketing: Metropolitan Transportation Commission and the Regional Transportation Marketing Program

The Metropolitan Transportation Commission (MTC) in the Bay Area has embarked upon an ambitious program of umbrella marketing, under the Regional Transportation Marketing Program (RTMP). The program, which includes significant assistance from private consultants as well as active participation of many transit agencies within MTC's jurisdiction, involves the features detailed below.

METROPOLITAN TRANSPORTATION COMMISSION AND THE REGIONAL TRANSPORTATION MARKETING PROGRAM

A. Adherence to Regional Brand—consultant is developing and updating a graphic standards guidebook for customer service project managers, consultants and partners, including

MTC Customer Service Projects:

- 817-1717
- RIDES for Bay Area Commuters
- TransLink®

MTC Transportation Partners and Projects

- BAAQMD/Community Focus on Spare the Air Campaign
- Transit Operators
- Commuter Check®
- RTC Clearinghouse
- www.transitinfo.org
- Regional Transit Guide
- Freeway Service Patrol

B. Unified Portal for Websites

C. Transit Image Building Campaign
   - Concerted and sustained campaign focusing on improving image of public transit (could expand to other modes in future-includes TV, billboards, and Internet ads. Camera ready print ads and pre-recorded radio spots provided to TOs)

D. TransLink®

E. Traffic Congestion Reduction Campaigns
   - TravInfo® 81701717
   - Freeway Service Patrol and Call Box Services

F. Outreach to CalWORKs/Low-Income Persons
   - Specific projects remain to be determined, depending on outcome of the Regional Welfare-to-Work Planning Project currently being undertaken by MTC--possibilities include streamlined multilingual regional transit guide; collateral to promote specific regional Welfare-to-Work assistance programs such as transit vouchers, trip planning services, etc. and tech training for social service agency staff

G. Customer Service Standards Recommendations
   - Consultant will provide an inventory of customer service issues (e.g., current standards, evaluation methodologies, and measures of effectiveness) and identify "best practices".
   - Assess customer service standards of MTC's projects, research model programs and identify best practices; develop customer service standards and implement pilot program with evaluation and modification, if necessary.
   - Inventory telephone and internet information services provided by transit operators, including customer feedback; Research model programs, identify best practices, develop customer service standards and implement pilot program with evaluation and modification, if necessary.

H. Media Outreach

I. Partner Support and Coordination
   - Maintain communication between transit agencies and other partners through bayareatrans listserv and monthly verbal reports to RTMC.

J. Testing, Measurement and Evaluation
   - Use testing, measurement and evaluation tools to refine and modify marketing strategy and materials on an ongoing basis.
   - Test selected marketing materials for clarity of message, readability, aesthetic appeal, emotional impact, call to action, cultural competence etc. (use focus groups or appropriate target audiences).
   - Measure baseline and milestone to assess before and after changes in perceptions, awareness, use patterns and other information to assess effectiveness of marketing strategies.
   - Conduct two telephone surveys, each with a sample size of 1,200 respondents.
   - Survey No 1
   - Public perception of transit
   - Criteria used when selecting a travel mode
   - Familiarity with transit service options in their geographic area
   - Rating of performance of transit services (convenience, safety, timeliness, cost, etc.
   - Awareness of TravInfo®, www.transit info.org, Commuter Check®, Regional Transit Guide, Freeway Service Patrol, Call Boxes, TransLink®, ridesharing services and Spare the Air campaign
   - Usage and satisfaction with transportation and information/support services

Survey No. 2
   - Same as survey No. 1
   - Additional queries regarding new initiatives such as the regional brand

Results will be compared to baseline data (survey 2 to survey 1) to determine changes in public awareness, perceptions and use of transit and transportation information/support services and the effectiveness of marketing efforts. Consultants will also compare results of these surveys with surveys done by other agencies.

2.4.4. MEASURING EFFECTIVENESS: LINKING PROGRAM GOALS AND STRATEGIES TO RESULTS WITH MONITORING AND FEEDBACK

Transit operators differ widely in their ability to produce effective, well-crafted marketing plans. Some agencies, utilizing either staff or consultant technical assistance, have developed comprehensive plans that include goals, strategies, budgets, timelines, and monitoring and feedback mechanisms to determine the effectiveness of programs implemented. Most agencies, however, do not have the staffing, budget, or in-house technical expertise to design a marketing program that includes all essential elements. This section identifies typical pitfalls associated with the monitoring and feedback portions of marketing programs.

Ridership Goals: Quantifying Success

Marketing of transit services typically focuses either on satisfaction of existing ridership, or on increasing ridership. We therefore need to look at ridership and associated system development goals of the properties to understand marketing efforts, or lack thereof. Though obviously they will differ from region to region, here are some examples of ridership goals:

- To increase ridership at a rate equal to or greater than that of population increase in the area
- To retain existing total ridership
- To increase ridership by mode over existing total ridership
- To increase ridership expressed as a percentage of current ridership (would "x percent" keep pace or fall behind population?)
- To increase mode share (does transit compete for its own ridership between modes? I.e. does bus marketing pull people off light rail? Does a commuter train marketing campaign pull people off express bus service?)
- To increase ridership on minimally productive routes and service types (e.g., fixed route vs. dial-a-ride, etc.)
- To increase off-peak/mid-day ridership
- To increase ridership among a certain demographic (the rider vs. non-rider segments)

Customer Satisfaction

Under the customary operations of most transit operators included in this assessment, customer satisfaction surveys (including on-board surveys, ridechecks, comment cards, and other tools) are conducted regularly, often at the direction of management. Unfortunately, there is often limited or no funding available to satisfy customer requests - so a situation of unmanageable expectations may be created.

Performance Goals

Some goals may be measured in terms of performing the task, rather than determining the outcome. Though this is an easy way to measure compliance with a marketing plan, it does not reveal the effectiveness of the measure. For example, under a performance goal monitoring system, a strategy designed to "create a strong community presence" could be deemed as accomplished if the agency performed the following:

- Placed 820+ traffic sponsorship messages
- Placed 550 60-second radio ads
- Placed 632 local cable TV ads
- Held two public meetings

But without additional market research, the agency knows little about the impacts or the result in behavior, and would have no guidance on whether to continue the program or not.

The verbatim excerpt below illustrates an example of a problematic approach, with the agency's name omitted:

> Promotions which target specific rider groups, such as youth and the elderly, have already been implemented by Agency X management through the distribution of Agency X coloring books for school age children, on-site promotions of Agency X service at both businesses and schools, and by Agency X's participation in civic events which include free bus rides. Agency X also develops a quarterly newsletter and distributes it to passengers for announcing upcoming changes and other important notices and information. In addition, Agency X does ridership surveys regularly, which solicit input for service improvements from riders. This provides Agency X with a mechanism to develop future marketing and advertising programs.

This well intended marketing plan appears to have a feedback loop, but it really does not. Although "ridership surveys" are performed "regularly," the surveys relate to service improvements. There is no way for Agency X to determine whether the coloring books or the free bus rides impacted travel behavior whatsoever.

Positive Ridership Trends Potentially Mis-Attributed to Marketing Efforts

Without additional follow up with a number of individual transit agencies, it is extremely difficult to determine whether assertions of results stemming from marketing efforts are accurate. For example, one agency stated that its "New Resident Marketing Program" (basically inserts in the new utility bill) resulted in 43,614 new riders during first half of year. Unless this agency had made a specific inquiry into this issue, through survey research, it is difficult to see how such a claim can be sustained though it may, in fact, be true. What happens more often, however, is that increases in ridership are attributed to actions taken by the agency. Claims are made, but causality is neither specified nor documented.

For example, El Dorado County Transportation Commission's overall mission is "to provide effective public transit, coordinate transit services and reduce vehicle miles traveled on the Western Slope of El Dorado County" (Transit Systems Management Report 1998/99, p. 21). It would require an extremely sophisticated (and costly) research effort to verify an alleged correlation between transit marketing and service provision and reduction in vehicle miles traveled, if such a result were to occur.

It should not be assumed the agencies do not try to set up evaluation programs. An example of a commitment to the evaluation of a marketing program is found in the following material from Siskiyou County:

> **Evaluation of Marketing Efforts**
> The most essential and most often overlooked element of a marketing plan is an evaluation effort. Evaluation should be performed in terms of the stated marketing objectives. This process should provide the data and procedures by which the success of the marketing program can be determined. In addition to statistical data (such as ridership) collected over the year, this should include a survey of the general public establishing the level of public awareness and image regarding the service. This evaluation process is crucial, as it allows future objectives, strategies and tactics to be refined (Siskiyou County Short Range Transit Plan, Marketing Program, pp. 138-143).

This statement of the issue is a step in the right direction, but still does not explain how a causal nexus between "X marketing strategy" and "X result" will be established. Though a marketing plan is more of an art than a science, there is a need for rigorously designed programs and extensive pre-and post-campaign research to determine effectiveness.

2.5. MECHANISMS TO ACHIEVE COORDINATION OF SYSTEMS AND MARKETING EFFORTS

This section identifies current means by which transit operators and MPOs work with each other--whether to coordinate programming and planning efforts or to share data and meet the requirement to be responsive to a multi-jurisdictional clientele. It is intended to provide an overview of the institutional context in which operators and MPOs work, and thus to help the Department determine an appropriate and feasible role within a set of existing interrelationships.

2.5.1. MEANS OF COORDINATION

The effort to deliver a complex, multi-modal transportation system in a situation of ever increasing travel demand resulted in an equally complex system of institutional relationships between public agencies variously tasked with planning, programming, funding, operating and monitoring the transportation system. Issues of timing, jurisdiction and competing goals are worked out through these means. If marketing is going to become an element that is accorded more importance in the future, it must be included as a factor in the development of these relationships, and funding for marketing must also be placed on the table for discussion and allocation of necessary resources.

The San Diego Association of Governments (SANDAG) provides a particularly good example of the number of planning documents, agencies, committees, and forums needed to ensure coordination with transit agencies within its region:

SANDAG Planning Documents

- Regional Transportation Improvement Program (RTIP): Developed by MPOs, representing a seven-year program of transportation projects (multi-modal), including funding sources and schedules
- Regional Transportation Plan (RTP): Developed every two years by MPOs; outlines long range planning needs and improvements for all modes within region
- Short Range Transit Plan (SRTP): Developed by transportation commissions and operators; comprehensive plan of operations and capital improvements for operators within a seven year period
- Transportation Improvement Plan (TIP): Prepared every other year by (CTC? Operators?); compilation of all transit capital projects and transit-related highway projects planned for implementation within next eight years

SANDAG Cooperative Agreements

- Uniform Fare Structure Agreements: Coordinates public transit fare structures within regions; may establish regional passes and promote free and/or coordinated transfers between operators
- Memoranda of Understanding (MOUs): Define responsibilities for planning and programming between agencies

SANDAG Task Force Work Efforts and Other Coordinating Bodies and Mechanisms

- San Diego Marketing Alliance for Ridesharing and Transportation (SMART): Develops regional marketing strategies; composed of staff from area operators, MTDB, SANDAG, APCD, RideLink and TMAs; meets monthly.
- Transit Service Technical Committee: Coordinates planning, operations and marketing activities

for SDTC, SDTI and MTDB Contract Services; composed of planning, operations and marketing staff of SDTC, SDTI and MTDB; meets approximately once a month.
- Joint ventures
- Regional Telephone Information Systems
- Provides a centralized transit telephone information system for most transit services within a given region. Automated trip planning and interactive voice-response systems are often features of these systems.
- Regional Transit Maps
- Taxicab administration (licensing and regulating private passenger carriers)
- ADA compliance
- Title VI compliance

2.5.2. Assistance Provided by Metropolitan Planning Organizations (MPOs) to Transit Operators

In order to understand how the Department might assist transit agencies, it is important to understand how MPOs currently provide assistance to transit operators within their jurisdiction. Transportation commissions also sometimes provide this type of assistance for the smaller transit operators within the county.

- Market research efforts
- Passenger counts (info needed for Federal Transit Administration reporting, plus system planning and route planning)
- Internet home pages, including trip planners and interactive maps
- 1-800 information numbers
- Demographic forecasting
- Coordination with The Department to provide service in major corridors
- Marketing plans, programs, implementation and umbrella branding

2.6. OBSERVATIONS AND FINDINGS OF TRANSIT MARKETING LITERATURE REVIEW

2.6.1. Uses of Transit Marketing Literature Review

The forgoing analysis of current market research was used to guide the development of the Department's telephone survey questionnaire included as part of this study, and to:

- Identify characteristics of the "non-traditional rider"
- Provide a basis for discussion in the transit operator focus groups
- Guide development of study findings and recommendations

This section provides a summary of the salient observations and findings emerging from the marketing survey and document literature review, which shed light on the many challenges that face transit operators in the current climate. Recommendations based on the findings of all work efforts in this report are found in Chapter 7.

Current Survey Understanding of Riders and Non-Riders: Who They Are and What They Want

Transit Operator Classification of "Rider" and "Non-rider"

A key finding is that *there is no one consistent definition of "rider" or "non-rider".* The transit operators' inconsistent definition of the terms is reflected in the variety of labels used to characterize these groups:

- Non-riders
- "Gatekeepers"
- Under-served social service clients
- Potential "choice" riders
- Those in under-represented demographic groups
- Future customers

Population Groupings Commonly Used by Transit Operators

Transit providers across the state tend to use one or more of the following general groupings, depending on specific circumstances and transit service policies:

- Existing riders vs. non-riders
- Frequent riders vs. non-frequent riders and
- Higher income discretionary users vs. transit dependent
- Seniors and disabled (a subcategory of transit dependent)
- Students
- Niche markets
- Reverse Commuters
- Tourists
- Special event service riders

An example of a more refined set of market segments is provided by a recent San Diego-based (TransitWorks) effort at segmenting the general population into discrete groups. Here, an intensive survey effort yielded the following categories:

- Road Runners (need flexibility, speed, and good personal travel experience)
- Cautious Roundabouts (need flexibility speed and safety)
- Intrepid Trekkers (need flexibility and speed, but don't care so much about either personal travel experience or safety)
- Flexible Flyers (need flexibility and speed, but don't care about personal travel experience)
- Conventional Cruisers (lower need for flexibility and speed, but want good personal travel experience)
- Easy Goers (lower need for flexibility and speed, and low sensitivity to travel experience)

What Riders Want

Transit operators focus primarily on current customers. Operators typically survey this group through on-board surveys at least annually, so they have a broad understanding of their riders' level of satisfaction with existing service. When asked to identify needed service or operational improvements, riders asked for:

- More frequent service (crosses all demographics)
- "On time" service
- Better timed transfers

- Extended service (nights and weekends)
- Additional routes (to a lesser extent)

In order to retain existing riders, a recent survey by Omnitrans (Attitude & Awareness Study, Rider Survey 2000 Final Report, p. 2) showed that 76% of current riders who are likely to quit riding Omnitrans say that there is nothing Omnitrans could do to keep them as riders. The remaining 39% of those likely to quit riding indicated that they could be retained as riders if Omnitrans were to take actions related to:

- Bus fares
- On-time service
- Route availability and service hours
- Speed of buses
- Benches or shelters at bus stops
- Concern for passengers

This survey also showed that "satisfaction with the reliability of the buses, and satisfaction with the friendliness and courtesy of the drivers, is the strongest predictors of opinions on Omnitrans' overall performance" (Ibid., p.2).

What Non-riders Want

Looking at a variety of transit operator surveys of non-riders, it is clear that they want the same travel benefits as transit riders: Reliability, convenience, safety, and comfort. Two factors distinguish non-riders from riders, however: 1) Non-riders' expectations for each service category are higher, and 2) Non-riders are less likely to commit to use transit, *even if those higher expectations are met.*

Generally, transit operators focus less survey effort on non-riders, and therefore, know less about this group. There appears to be a group of "staunch non-riders" who will never ride transit, under any circumstances. If transit operators want to attract "choice" riders to transit, they need to provide service that is perceived as equivalent to the automobile. Operators need to be cautious about pursuing promotional strategies aimed at non-riders, without simultaneously improving existing services and operations.

Current Marketing Practices

In accordance with their respective financial and service-related constraints, transit operators conduct a myriad of marketing efforts, ranging from the fundamentals of marketing to highly specialized or innovative practices that can be generally grouped within the following categories:

- ***System Identity and Messaging***
- ***Passenger Information***
- ***Advertising Strategies and Modes***
- ***Service Related Marketing***
- ***Special Promotions or Innovations***
- ***Marketing Targeted to Specific Audiences***

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2.7. MARKETING CHALLENGES AND DEMANDS:

Detailed marketing strategies will be identified as part of the recommendations of this study. However, it is important to understand the challenges that face transit operators in the current climate.

2.7.1. FINANCIAL CONSTRAINTS TO RIDERSHIP AND SYSTEM DEVELOPMENT

The documents reviewed as part of this task are replete with detailed discourses relative to the financial constraints confronting transit operators as they try to retain current riders and/or attract new ones, including, but not limited to the following:

- A focus on operational refinements, rather than expansion of transit systems
- Efforts to improve service efficiency within fiscal constraints
- Recently shrinking revenues have meant tapping operating and capital reserves simply to maintain service
- Funding derived from non-recurring financial resources
- Prioritization of reserve funds for contingencies
- Constraints relative to requirements for average fare box return for transit operators from 20% to 38%. This means that every new rider represents a need to subsidize the fare. This dynamic is at the root of conflicts relating to marketing goals, objectives, and results.
- Current funding sources are either largely allocated with minimal growth available or statutorily prohibited use for operating costs.

2.7.2. CHALLENGING DEMOGRAPHIC AND DEVELOPMENT TRENDS

There are a number of issues and factors outside the direct control of transit operators and agencies that impact, and will serve to inhibit their ability to increase ridership on transit. Although these issues and factors are in many cases the natural result of continued economic growth and development, they reinforce the perception that transit is, and will continue to be unable to meet the diverse needs of potential riders. These issues and factors include, but may not be limited to:

- Generally unfavorable travel time comparison between driving and taking transit (even though increasing congestion is slowing the motorists' trips, it is likewise slowing bus trips).
- In the current economy, later evening service is becoming a widely demanded service improvement. A "24-7" economy based on increased employment in trade, service and light manufacturing industries will require provision of transit service to accommodate employees' and the public's travel needs.
- Land use patterns (low-density suburban development, separate zoning for residential and commercial development, employment centers moving to the suburbs), are creating trip patterns difficult to serve by traditional transit (increased congestion on local streets, longer travel times, lengthy wait times, increased transfers needed to complete trips, etc.).
- Increasing suburban development and number of working women are increasing trip linking (complex, multi-purpose trips) and short, quick trips for errands, shopping, childcare, etc., which transit does not accommodate.
- Transit unfriendly development, for both residential and workplace areas (e.g. limited or no access or egress for transit vehicles, not close to transit stops, etc.).
- Use of large parking lots with spaces provided free to employees and customers, providing an increased incentive to continue driving to work.

- Projected increase in the senior population will result in the increase of ADA-eligible individuals requesting service. Over-65 age group will grow 90% by 2020, an increase of 727,000 people.

Given that the underlying policies associated with changes in population growth and development are formulated by those not involved in the provision of transit, these issues and factors will be difficult for transit operators to address. Undertaking efforts to lessen the impacts of these issues and factors on the operating environment must be a priority for transit operators. Operators should work closely with local and regional planning and development agencies and entities to: 1) Advise them of the specific impacts of development-based policies and strategies on transit in advance of making decisions at the local, regional and state levels; and 2) Develop policies and approaches that are transit-friendly instead of transit prohibitive.

CHAPTER 3: HOUSEHOLD TELEPHONE SURVEY

3.1. TASK DEFINITION AND PURPOSE

The Department undertook this project to gain a greater understanding of public attitudes, perceptions, expectations, and opinions in the areas of transit services, operations, promotions, public policy and performance. With the continuing population growth in California and the existing and projected impacts to traffic congestion resulting from this growth, the Department recognizes the need to develop strategies to promote and improve the quality of public transportation in order to adequately address the needs of the traveling public. As a necessary step in understanding public attitudes, opinions, and perceptions about transit, Fairfax Research designed and conducted a statewide telephone survey, which will also help to identify a potential market likely to begin riding or increase their ridership of public transportation.

In general, telephone surveys provide information, in the form of attitudes and opinions, from populations of relevant interest. This particular telephone survey, consisting of 3,302 telephone interviews with Californians who are 18 years of age or older and who commute to work at least one day a week, provides current information on their attitudes, perceptions, expectations, and opinions of the public transportation issues tested in the survey.

The following objectives shaped the development of the telephone survey:

- Develop a more detailed profile of "non-traditional" commute riders;
- Determine transit service awareness;
- Identify reasons for non-ridership;
- Explore trip flexibility needs of respondents;
- Improve understanding of respondents' mode choice decision hierarchy;
- Identify demographic attributes that explain travel behavior and mode preference;
- Help the Department identify potential marketing directions to increase ridership of public transit; and,
- Enrich the GIS effort and subsequent Phase I analysis.

Survey samples of a larger population measure opinions, beliefs and attitudes within identifiable statistical limits of accuracy at specific points in time. While using the most sophisticated procedures to collect and analyze the data, it should be noted that surveys provide information and direction, not necessarily formulas and predictions.

A description of the methodological approach is included in Appendix B in the Appendices section at the end of this report.

3.2. COMMUTE BEHAVIOR

3.2.1. TRANSPORTATION USE FOR COMMUTE

Respondents were asked: "Which of the following types of transportation do you use for your commute to work: A car, truck or van, bus or trolley bus, streetcar or trolley car, subway, railroad, ferryboat, taxicab, motorcycle, bicycle, walk, or something else?" As Figure 3-1 shows, respondents rely predominately on cars, trucks, and vans for their commute to and from work. Most respondents (90.6%) commute to work in an automobile, truck, or van. By comparison, fewer of them (8.1%) ride the bus/trolley bus, the subway (2.0%), the railroad (1.5%) or other form of transportation.

Figure 3-1:
Transportation Type Use For Commute

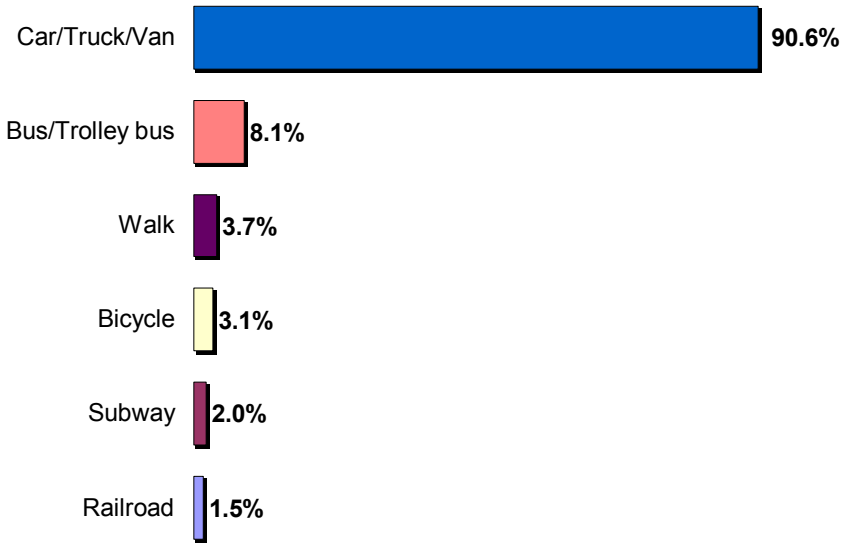


Table 3-1 shows that the type of transportation used by the respondents for their commutes to work vary by MPO. Fewer respondents living in the MTC area use a car, truck, or van for their commute to work. More of them use the bus (12.1%) or the subway (6.7%).

Table 3-1:
Mode Used for Commute by MPO

	Base	*Car/Truck/Van*	*Bus*	*Subway*	*RR*	*Bike*	*Walk*
Total	**3302**	**90.6%**	**8.1%**	**2.0%**	**1.5%**	**3.1%**	**3.7%**
SACOG	198	91.9%	7.6%	1.0%	3.5%	5.6%	4.5%
MTC	712	83.4%	12.1%	6.7%	3.4%	4.8%	6.6%
SCAG	1551	92.3%	7.9%	0.9%	0.9%	2.2%	2.3%
SANDAG	282	90.8%	9.6%		0.7%	2.1%	3.2%
SJCOG-STANCOG-MCAG	109	95.4%	2.8%				0.9%
AMBAG-SLOCOG-SBCAG	132	96.2%	3.0%	0.8%	1.5%	6.8%	5.3%
COFCG-TCAG-KCOG	168	91.7%	5.4%	0.6%	0.6%	1.8%	3.6%
All Others (Rural)	150	96.0%	2.0%			2.7%	4.7%

Table 3-2 shows the type of transportation used by the respondents for their commutes to work in the larger RTPA's.

Table 3-2:
Mode Used for Commute by RTPA

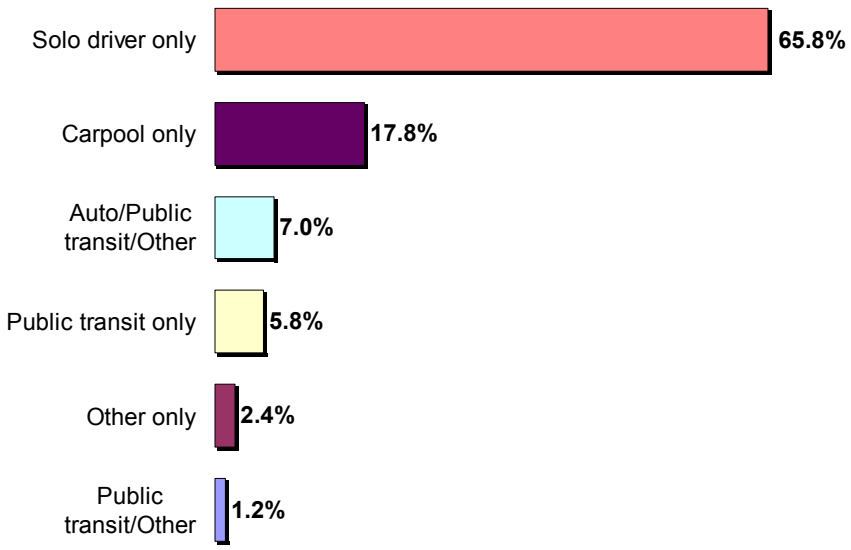
	Base	*Car/Truck/Van*	*Bus*	*Subway*	*RR*	*Bike*	*Walk*
Alameda	150	81.3%	12.7%	11.3%	3.3%	6.0%	5.3%
Contra Costa	97	90.7%	8.2%	5.2%	5.2%	1.0%	3.1%
LACMTA	918	90.1%	10.5%	1.4%	0.9%	1.7%	2.1%
OCTA	262	93.1%	6.5%	0.4%	1.5%	3.1%	1.9%
RCTC	141	98.6%	2.1%		0.7%	2.8%	4.3%
SANBAG	150	98.7%	2.0%			2.7%	3.3%
MTDB	282	90.8%	9.6%		0.7%	2.1%	3.2%
SF	97	47.4%	38.1%	20.6%	7.2%	5.2%	22.7%
Santa Clara	166	92.8%	3.6%		1.2%	3.6%	3.0%
Sacramento	127	90.6%	9.4%	1.6%	3.9%	6.3%	4.7%

- Respondents in the SANBAG area (San Bernardino County) and the RCTC area (Riverside County) rely heavily on their own vehicles for their commutes.
- In general, respondents in San Francisco use more public transit than do respondents in the rest of the state.

The results for Figure 3-2 below were derived by combining the respondents answer to the questions: "Which of the following types of transportation do you use for your commute to work: A car, truck or van, bus or trolley bus, streetcar or trolley car, subway, railroad, ferryboat, taxicab, motorcycle, bicycle, walk, or something else?" and "How many people, including you, usually ride to work in the car, truck, or van: Drive alone, 2 people, 3 people, 4 people, 5 or 6 people, 7 or more people." A "Solo Driver" used only a car, truck, or van for the commute to work and drove alone. "Carpool Only" respondents used only a car, truck, or van and they had at least two occupants in the vehicle. "Auto/Public transit/Other" (e.g., motorcycle, bicycle, walk, or something else) used a combination of these modes of transit together on the same day or independently on different days. The respondents in the "Public Transit Only" group used only public transportation for their commute to work. The respondents in the "Other Only" category commuted using some combination of only motorcycle, bicycle, walking, or something else. The last group, "Public Transit/Other" used a combination of public transportation and the other modes together or independently.

Figure 3-2 indicates that 65.8% of the respondents drive alone. Another 17.8% of the respondents ride/drive in carpools. Seven percent (7.0%) of the respondents in the study use a combination of automotive, public transportation, and other modes of transit. Approximately six percent (5.8%) use only public transit for their commute.

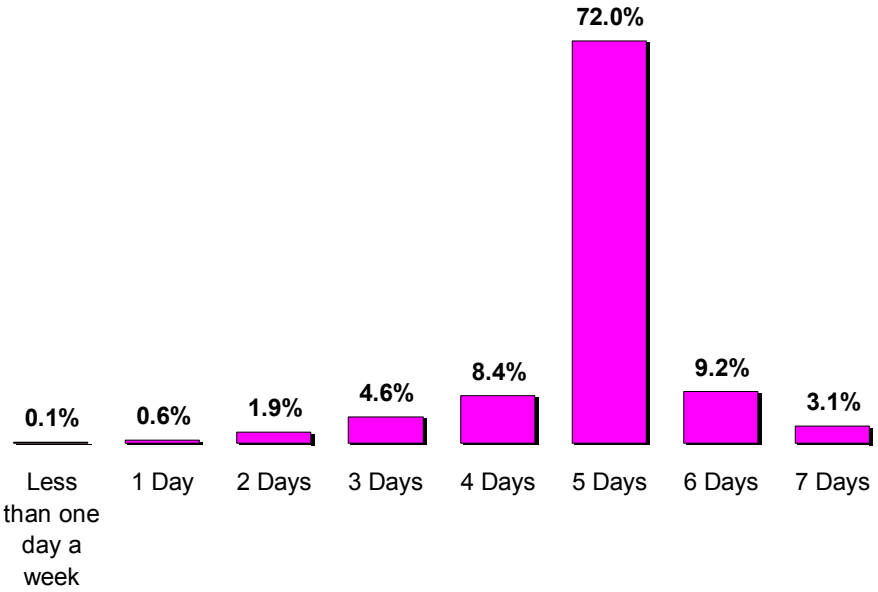
Figure 3-2:
Mode Used for Commute to Work/Home



3.2.2. AVERAGE DAYS COMMUTE TO WORK

Respondents were asked the question: "On average, how many days a week do you typically commute to work: Less than one day a week, 1 day, 2 days, 3 days, 4 days, 5 days, 6 days, or 7 days?" As Figure 3-3 indicates, the average numbers of days the respondents commute to work ranges from less than one day a week to a full seven days a week. Most of the respondents (72%) commute to work an average of 5 days a week. Smaller numbers of the respondents commute to work 4 days a week (8.4%) or 6 days a week (9.2%). Overall, the respondents commute to work an average of 4.9 days a week.

Figure 3-3:
Weekly Average Number of Days Commute to Work

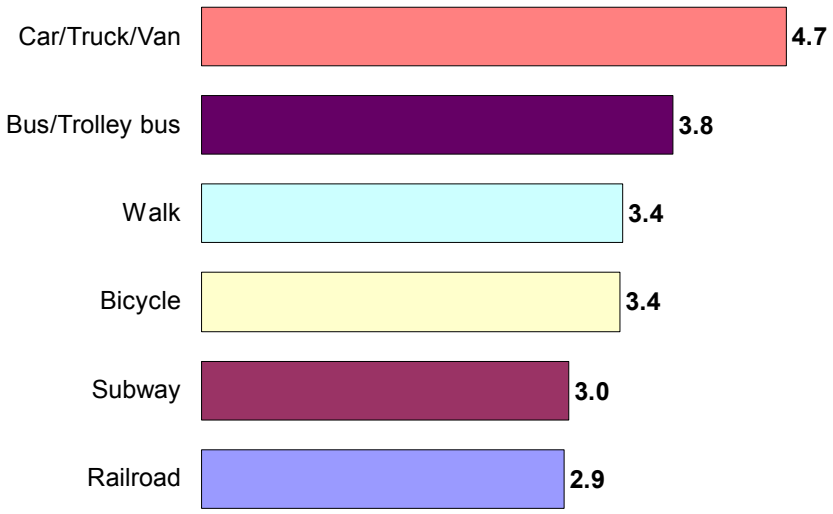


Days Use Each Mode of Transportation for Commute to Work

For each mode of transportation they used for their commute, the respondents were asked how many days a week they used that mode. Most respondents (93.0%) used just one mode of transportation (e.g., a personal vehicle, bus, trolley, etc.) for all their commutes. Smaller numbers of respondents used different modes of transportation on different days of the week (e.g., they drove their car three days a week and took the bus two days a week). A small number of respondents combined modes on the same day of the week (e.g., bus and train or car and subway) to make their commutes. Respondents who used multiple modes of transportation on the same day lived primarily in more urbanized areas of the state (e.g., MTC, SACOG, SCAG, and SANDAG areas). Since a sizeable body of data already exists on public transit users and usage, this study did not focus on existing public transit users. Consequently, the study sample size is too small to accurately analyze in any detail respondents who used multiple modes to make their commutes.

Figure 3-4 displays the average number of days per week the respondents used each of the different modes of transportation for their commute. Those who used a car, truck, or van used these vehicles for their commute an average of 4.7 days a week. Those who said they rode the bus as one of their modes of transportation used it an average of 3.8 days a week. Those who walked or rode a bicycle, used these two means of transportation an average of 3.4 days a week.

Figure 3-4:
Average Number of Days by Mode Used



3.2.3. COMMUTE DEPARTURE TIMES

Respondents were asked the two questions: “Approximately what time do you usually leave your home to go to work?” and “Approximately what time do you usually leave work to go home?” As Table 3-3 indicates, 75.5% of the respondents depart for work between 5:00 am and 9:00 am. Similarly, 73.4% of them leave work for home between 3:00 pm and 7:00 pm.

Table 3-3:
Time Leave for Work or Home

To Work		To Home	
Midnight to 4:59 am	**4.4%**	**Midnight to 11:59 am**	**5.2%**
5:00 am to 8:59 am	**75.5%**	**Noon to 2:59 pm**	**8.5%**
5:00 to 5:29 am	4.2%	12:00 to 1:59 pm	2.6%
5:30 to 5:59 am	4.3%	2:00 to 2:29 pm	3.3%
6:00 to 6:29 am	9.3%	2:30 to 2:59 pm	2.6%
6:30 to 6:59 am	11.0%	**3:00 pm to 6:59 pm**	**73.4%**
7:00 to 7:29 am	16.6%	3:00 to 3:29 pm	6.8%
7:30 to 7:59 am	12.4%	3:30 to 3:59 pm	6.3%
8:00 to 8:29 am	12.3%	4:00 to 4:29 pm	11.3%
8:30 to 8:59 am	5.3%	4:30 to 4:59 pm	8.8%
9:00 am to 11:59 am	**11.1%**	5:00 to 5:29 pm	18.8%
9:00 to 9:59 am	7.3%	5:30 to 5:59 pm	8.7%
10:00 to 10:59 am	2.8%	6:00 to 6:29 pm	9.6%
11:00 to 11:59 am	1.0%	6:30 to 6:59 pm	3.2%
Noon to 11:59 pm	**9.1%**	**7:00 pm to 11:59 pm**	**12.8%**
12:00 to 3:59 pm	4.7%	7:00 to 7:59 pm	5.6%
4:00 to 11:59 pm	4.4%	8:00 to 11:59 pm	7.2%
Total	3,302		3,302

In response to the question: "Why don't you use public transportation more often?" 5.0% of the respondents (see Table 4-10) said that public transportation did not come either early enough or late enough for their schedule. As Table 3-4 indicates, fewer of the respondents who said that they don't use public transportation more often because it did not come early and/or late enough, commute to work or home during the peak morning or evening commute periods (see the shaded boxes in Table 3-4 below).

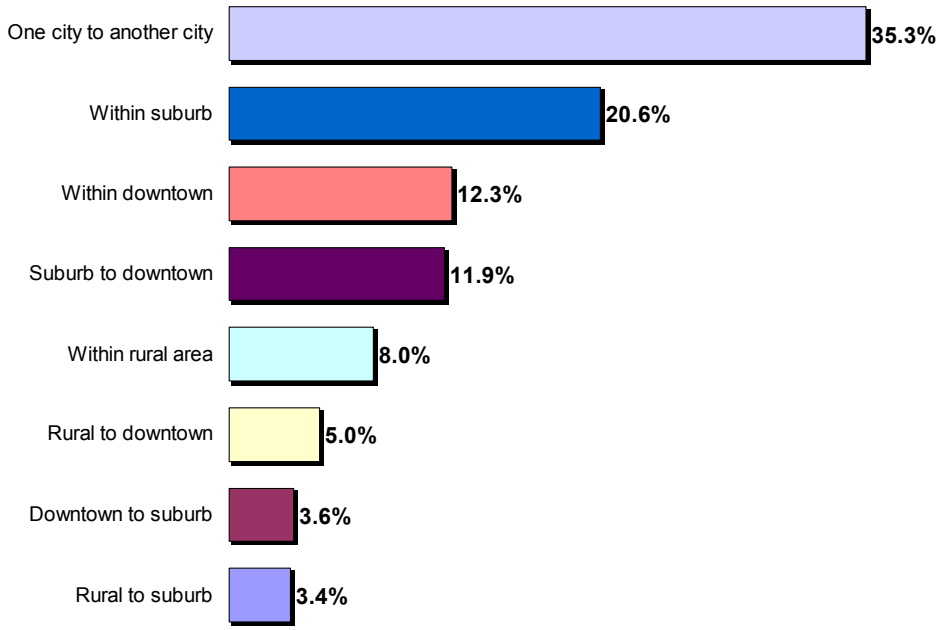
Table 3-4:
Transit Not Early/Late Enough by Time Leave for Work or Home

To Work	All	Not Early/ Late Enough	To Home	All	Not Early/ Late Enough
Midnight to 4:59 am	4.4%	16.5%	Midnight to 11:59 am	5.2%	16.5%
5:00 am to 8:59 am	75.5%	48.2%	Noon to 2:59 pm	8.5%	11.6%
9:00 am to 11:59 am	11.1%	10.4%	3:00 pm to 6:59 pm	73.4%	51.8%
Noon to 11:59 pm	9.1%	25.0%	7:00 pm to 11:59 pm	12.8%	20.1%
Total	3,302	164		3,302	164

3.2.4. COMMUTE TYPE

Respondents were asked the question: "Which of the following best describes your commute: Within downtown, within suburb, within rural area, from downtown to suburb, from suburb to downtown, from one city to another city, from rural to suburb, from rural to downtown?" As Figure 3-5 illustrates, 35.3% of the respondents commute from one city to another city. Another 20.6% of them commute within the suburbs, 12.3% of them commute within downtown, and 11.9% of them make a suburb to downtown commute.

Figure 3-5:
Commute Type



The respondents' type of commute is generally consistent with expectations for their geographic locations. Those respondents living in more urbanized geographic areas make more downtown-oriented commutes. Respondents living in suburban areas make more suburban and city-to-city commutes. Lastly, respondents living in rural areas of the state make more rural-oriented commutes. In addition, the data showed that:

- More public transit users, particularly those who ride the bus/trolley or subway, commute within downtown or from the suburbs to downtown than do respondents commuting with other modes of transportation.
- Virtually everyone making a rural to suburb commute uses a car, truck, or van.
- Similarly, most respondents who commute within the suburbs, within rural areas, or who commute from rural areas to a downtown drive or ride in a car, truck, or van.
- Respondents in the OCTA (Orange County) service area defined their commutes as primarily within the suburbs (27.1%) or from one city to another city (53.4%). Given the geography of the area, many of the "from one city to another city" commutes are technically from the limits of one city to the limits of another city (e.g., Irvine to Anaheim), but are probably more suburban than inter-city in nature.
- More respondents in San Francisco (42.3%) than in any other part of the state commute within the downtown area.

3.2.5. COMMUTE LENGTH

Respondents were asked their average commute lengths from home to work and from work to home. As Figure 3-6 below shows, they averaged 26.9 minutes for their home to work commute. Their average work to home trip took longer at 29.5 minutes. Those respondents traveling within rural areas, within the suburbs, or within downtown reported the shortest average commutes. Respondents traveling from one city to another city, from the suburbs to downtown, or from rural areas to downtown experienced longer average commutes. Respondents who commuted from one city to another city reported the longest average home to work and work to home commute lengths.

Figure 3-6:
Commute Length in Minutes by Commute Type

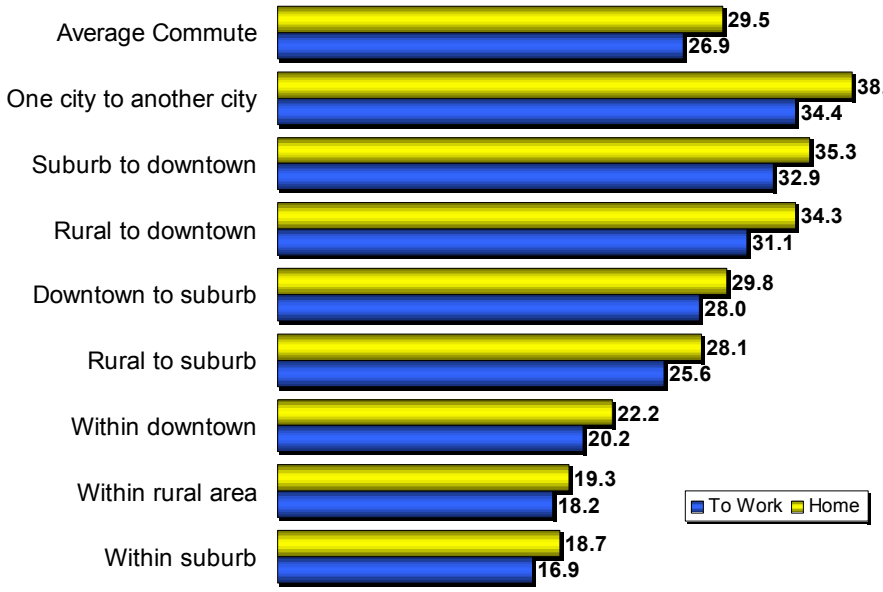
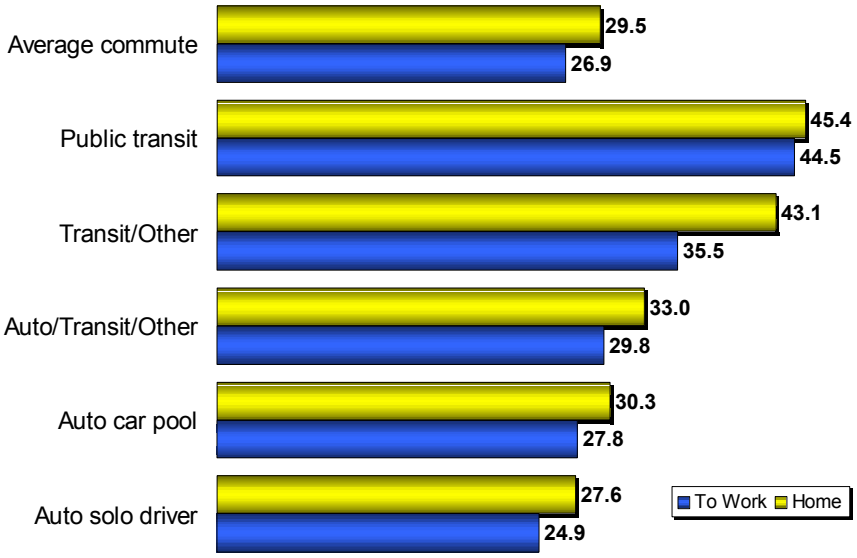


Figure 3-7 below illustrates that the commute lengths vary significantly for the different modes of transportation. Public transit users reported the longest average commutes to work (44.5 minutes) and to home (45.4 minutes). Automotive solo drivers and carpool respondents reported noticeably shorter average home to work and work to home commutes than those who only used public transit for their commutes.

Figure 3-7:
Commute Length in Minutes by Mode



As Table 3-5 indicates, this pattern remains consistent across all commute types (e.g., within downtown or city-to-city). Respondents who use public transportation consistently report longer average commute lengths for every type of commute than do automotive solo drivers or carpoolers. (A note of caution: The small sample sizes when analyzing the data by type of commute, mode of commute and average commute length limit the accuracy of the findings).

Table 3-5:
Average Commute Length in Minutes by Type of Commute by Mode of Commute

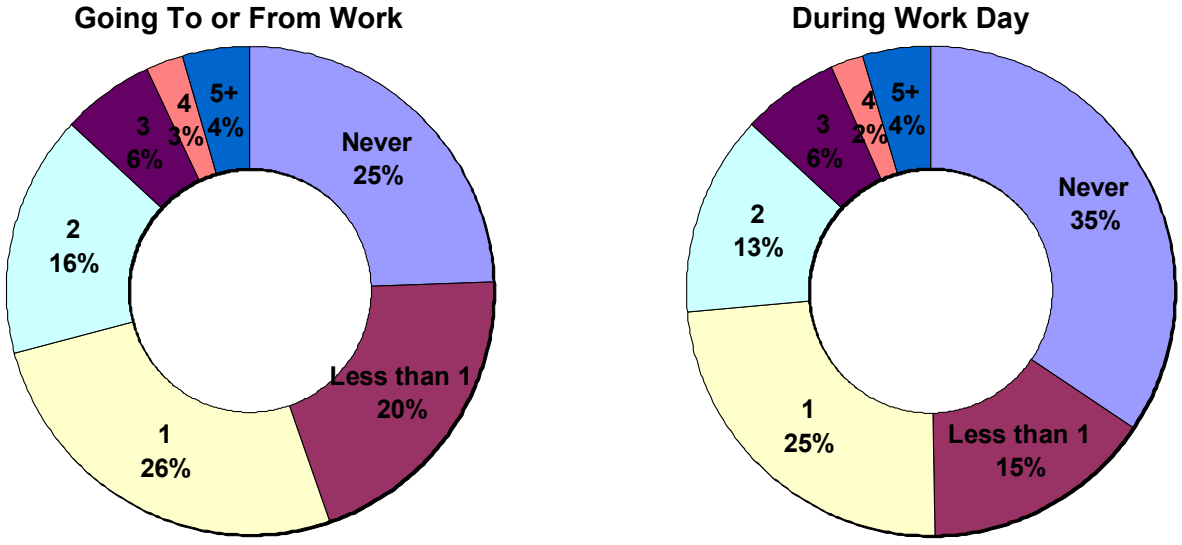
	Home to work	Work to home	Base
Within downtown			
Automotive solo driver	18.0	20.2	211
Automotive carpool	18.8	21.0	69
Public Transit only	31.6	34.2	52
Suburb to downtown			
Automotive solo driver	29.1	32.5	247
Automotive carpool	30.3	33.5	59
Public Transit only	53.3	49.9	37
City to city			
Automotive solo driver	31.9	35.5	781
Automotive carpool	36.0	39.6	229
Public Transit only	53.2	55.7	62

3.2.6. LINKED TRIPS

Respondents who used a car, van, or truck to make their commute were asked a series of questions about the use of their vehicles on the way to and from work and during the work day. Specifically, they were asked: "How many times on the way to work or school or on the way home from work or school do you use your personal vehicle to run errands, drop-off or pick-up children from daycare, go out to eat, or some other personal activity?"

As Figure 3-8 indicates, 55% of these respondents used their vehicle at least once on the way to or from work for personal activities such as to run errands, drop-off or pick-up children, or go out to eat. Twenty-six percent (26%) of them used their vehicles once a day, 16% of them used their vehicle twice a day, and 13% of them used it three or more times a day for personal activities.

Figure 3-8:
Number of Times Vehicle Used



Other survey results include:

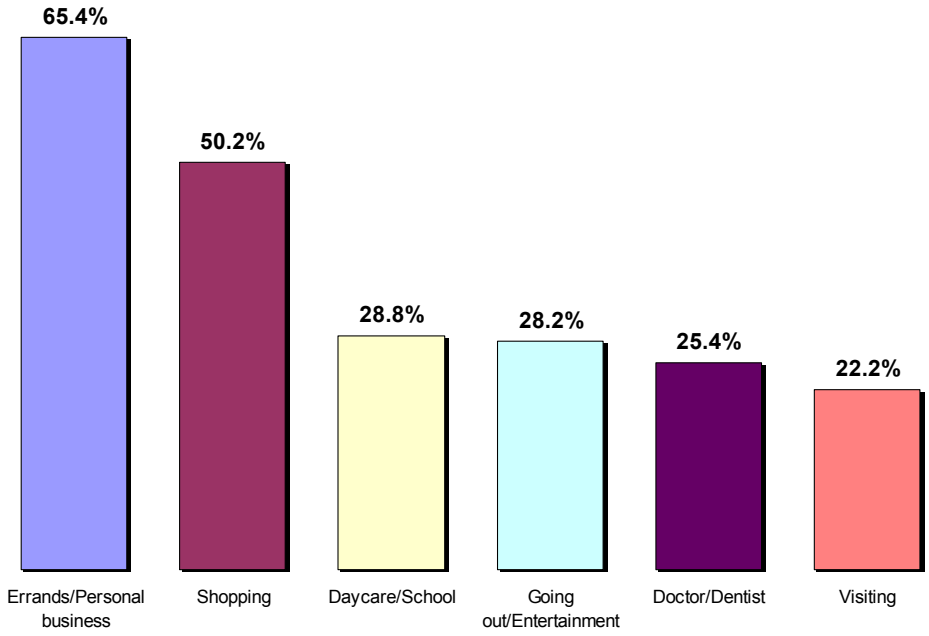
- More Southern Californians than Northern Californians use their vehicles on the way to or from work and during the workday.
- Women average more stops (1.27) than do men (1.09) on the way to work or the way home from work to run errands, pick up children and other personal activities.
- Respondents under age 40 averaged more stops on the way to or from work than did respondents age 40 or older.
- Respondents from households consisting of at least three members averaged more stops going to work or coming home from work, particularly when the household included at least one child under the age of 16.

The respondents were also asked: "How many times during the workday do you use your personal vehicle for activities other than driving to or from work?" Figure 3-8 also shows that 50% of these respondents used their vehicle at least once during the day after they arrived at work. More specifically, 25% of them used their vehicles once a day, 13% of them used it twice a day, and 12% of them used it three or more times a day.

Some 14.2% of the respondents said they do not use their vehicle on the way to or from work for anything other than driving to or from work, *and*, once at work, do not use it during the workday. Despite their apparent lack of need for their vehicle other than for their actual commute, these particular respondents expressed very little likelihood of increasing their use of public transit in the next 12 months.

Those who stopped on the way to work or home were also asked: "Which of the following types of stops do you make on the way to or from work or school?" As Figure 3-9 shows, they stop most frequently to run errands (65.4%), followed by shopping (50.2%), dropping off children at daycare or school (28.8%), participating in some form of entertainment (28.2%), going to the doctor or dentist (25.4%), or visiting family or friends (22.2%).

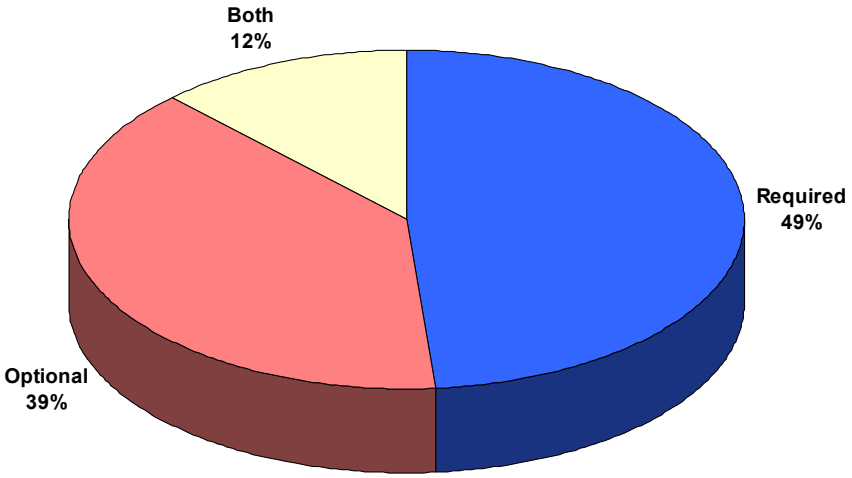
Figure 3-9:
Stops Made On the Way To or From Work



- In particular, women stop on the way to or from work to drop off children at daycare/school, to shop, or to go to the doctor or dentist.
- Married respondents make fewer entertainment-related stops than do single respondents.
- Respondents with children under the age of 16 living at home make more stops to drop children off at daycare/school and fewer stops for the purposes of entertainment.

The respondents were asked one additional question about the nature of the stops they make on the way to or from work: "Thinking about the stops you make on the way to or from work or school, would you say that these are required stops that you must make or that these are optional stops that you choose to make?" As shown in Figure 3-10, 49% of the respondents considered these required stops. 39% of them labeled them optional stops. The remaining 12% of them regarded the stops a combination of required and optional.

Figure 3-10:
Stops Required or Optional

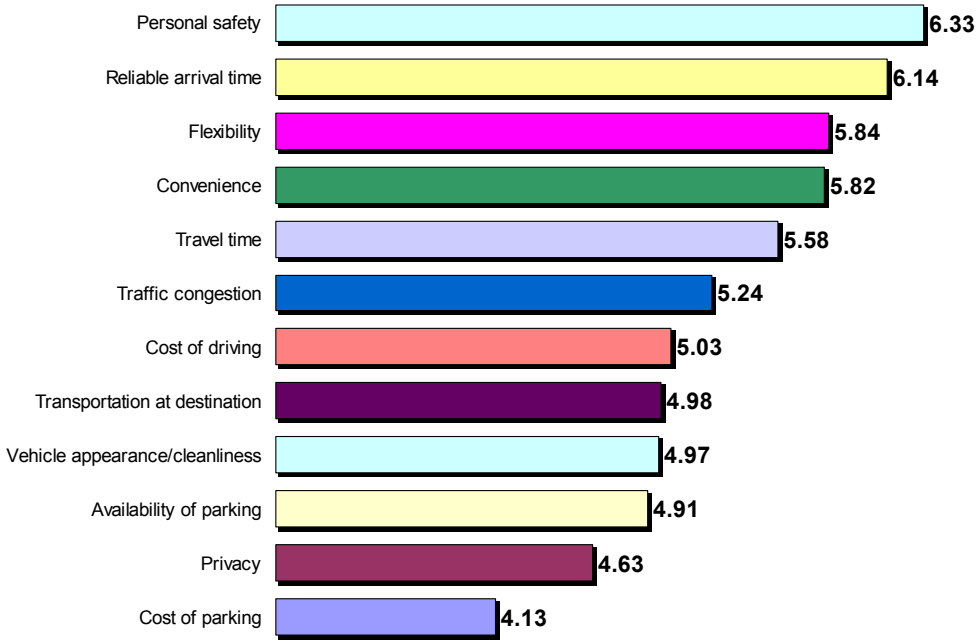


- More women (52.8%) than men (43.4%) indicated that they make required stops on their way to and from work.
- Respondents who are not married make more optional stops than do married respondents.
- The nature of these stops apparently has little relationship to their willingness to use or increase their use of public transportation. Theoretically, respondents making optional stops might more willingly forgo those stops and express more of a willingness to use public transportation. In fact, based on their responses to question 53 regarding the future use of transit (see Figure 3-19), the respondents who made optional stops are no more likely than respondents who made required stops to increase their use of public transportation in the next 12 months.

3.3. MODE CHOICE CRITERIA

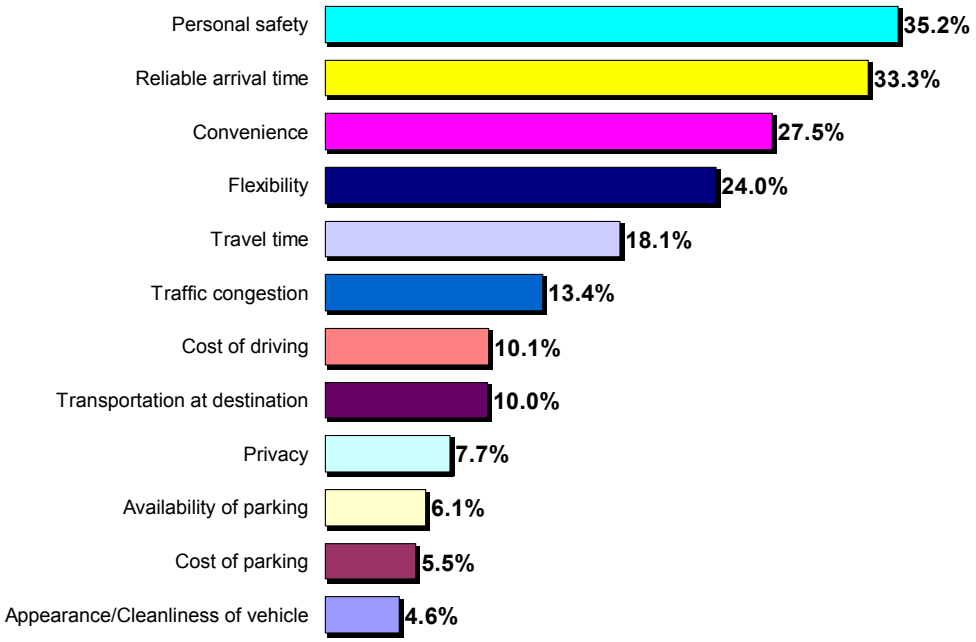
The respondents were asked to indicate the importance of a list of twelve transit-related factors when deciding whether to drive their own vehicle or use some other mode of transportation for their commute. The respondents rated each of the factors on a scale of one to seven, where a one indicated that the respondent placed no importance on that factor when deciding which mode of transportation to use and a seven indicated that the respondent considered that factor very important in their choice of a mode of transportation. As Figure 3-11 illustrates, the respondents placed the highest priority on safety and reliable arrival time. They also considered flexibility and convenience important when selecting their mode of transportation. The travel time and traffic congestion also ranked higher on their list of priorities.

Figure 3-11:
Mean Importance Mode Choice Factors
(1 = Not Important 7 = Very Important)



After rating each individual decision factor on a one to seven scale, the respondents were then asked to select the two factors from the list of twelve that they considered most important when deciding whether to drive their own vehicle or use some other means of transportation. This question adds another dimension to their choice hierarchy. As Figure 3-12 shows, the respondents judged "personal safety" (35.2%), "reliable arrival time" (33.3%), and "convenience" (27.5%) the most important mode choice criteria. "Flexibility" (24.0%) and "travel time" (18.1%) also ranked highly in their decision hierarchy. The responses indicate the respondents' emphasis on safety, arrival time, convenience, and flexibility when selecting a mode of transportation for their commutes. They placed lesser importance on the appearance and cleanliness of the vehicle, the cost of parking, the availability of parking, and privacy.

Figure 3-12:
Two Most Important Choice Criteria



These findings vary by geographic area:

- The cost of parking is a larger concern to residents of San Francisco (16.5%) and Contra Costa (12.4%), while parking availability is more important to respondents living in Alameda (12.0%) and San Francisco (11.3%).
- Noticeably more respondents in San Bernardino County deem their personal safety (48.7%) one of the two most important choice criteria.

As the mean values in Table 3-6 and the percentages in Table 3-7 below indicate, solo drivers, carpoolers, and public transit users have a similar hierarchy of importance (although flexibility is somewhat less important to transit riders than it is to respondents who drive alone or in a carpool), but they differ in the degree of importance of the choice factors. For example, all three groups place safety at the top of their choice criteria list, but it is relatively more important to respondents who drive in carpools. The shaded boxes identify significantly higher means or percentages.

Table 3-6:
Mode Choice Importance by Mode Used

	Solo driver	Carpool	Public Transit
Personal safety	6.33	6.56	6.21
Reliable arrival time	6.14	6.24	6.08
Flexibility	5.86	5.81	5.60
Convenience	5.84	5.78	5.90
Travel time	5.55	5.62	5.75
Traffic congestion	5.14	5.28	5.40
Cost of driving	4.91	5.50	5.00
Appearance/Cleanliness of the vehicle	4.90	5.21	5.30
Availability of parking	4.80	5.15	4.64
Availability of transportation at destination	4.77	5.16	5.54
Privacy	4.61	4.93	4.27
Cost of parking	3.78	4.22	4.45

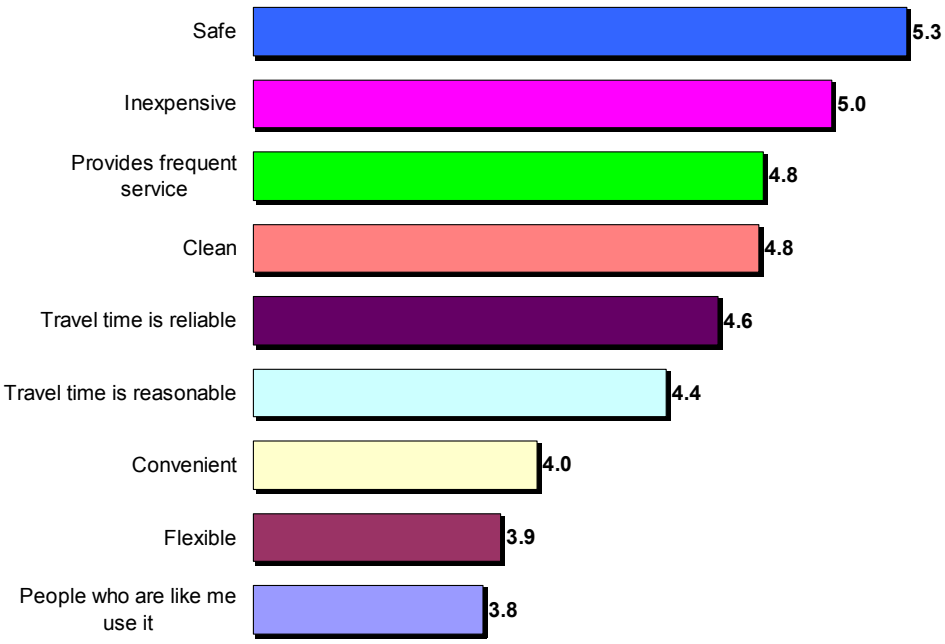
Table 3-7:
Two Most Important Choice Factors by Mode Used

	Solo driver	Carpool	Public Transit
Reliable arrival time	33.8%	31.7%	30.1%
Personal safety.	33.6%	41.4%	34.2%
Convenience	30.1%	22.2%	24.9%
Flexibility.	27.0%	20.2%	16.6%
Travel time	18.2%	18.5%	18.1%
Traffic congestion	12.3%	13.9%	15.5%
The availability of transportation at destination	10.9%	8.5%	9.8%
Cost of driving	8.3%	12.7%	14.5%
Privacy	8.0%	9.3%	2.6%
Availability of parking	5.3%	7.1%	8.3%
Cost of parking	4.0%	5.4%	11.9%
Appearance/Cleanliness of the vehicle.	3.9%	5.1%	8.3%

3.4. PERCEPTIONS OF PUBLIC TRANSIT

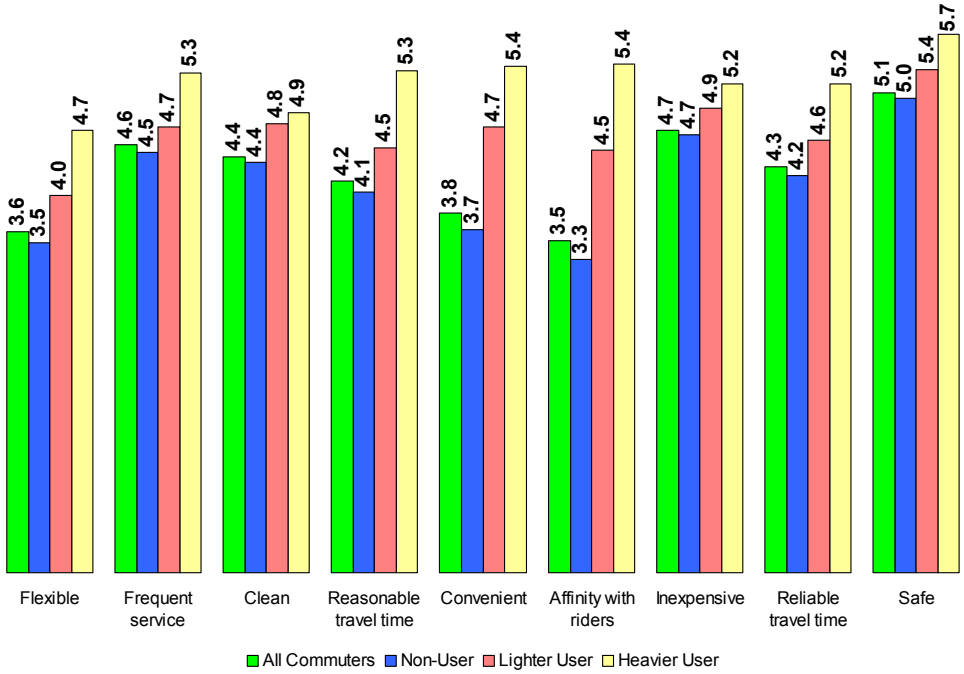
Respondents were also read a list of nine statements and asked to indicate how well they felt each statement described public transportation. They responded using a scale of one to seven, where a one meant they definitely did not think the statement described public transportation and a seven meant they definitely thought the statement described public transportation. As Figure 3-13 illustrates, the respondents consider public transit safe (5.3) and inexpensive (5.0). They also believe it provides frequent (4.8), reliable (4.6) service in clean vehicles (4.8). However, they questioned the reasonableness of the travel times (4.4), the convenience (4.0), and the flexibility of public transportation (3.9). The respondents also evidenced little affinity with transit users. The mean response for this attribute was only a 3.8.

Figure 3-13:
Mean Ratings of Perceptions of Public Transit
(1 = Definitely Not Describe 7 = Definitely Describe)



As Figure 3-14 shows, perceptions of public transportation vary significantly between transit users and non-users. Heavier transit users (they ride public transportation 4 or more times a week) rate it higher than lighter users (they ride public transportation 1 to 3 times a week) and non-users on virtually every attribute. Lighter users also rate public transportation higher than do non-users, with the exception of the attributes "provides frequent service" and "inexpensive".

Figure 3-14:
Mean Ratings of Perceptions of Public Transit by User Type
(1 = Definitely Not Describe 7 = Definitely Describe)

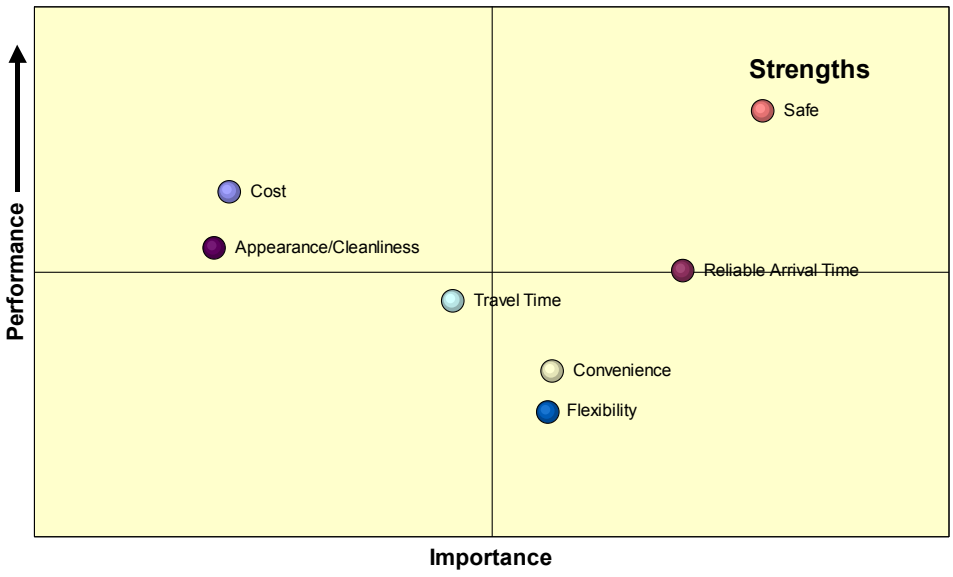


Lighter users do not consider public transit as flexible, convenient, or as safe as heavier users. They also rate public transit lower on frequency of service, travel time (reasonable and reliable) than do heavier transit users. Moreover, they feel less affinity with other transit riders than do the heavier transit users.

For seven of the attributes (personal safety, convenience, flexibility, reliable arrival time, travel time, cost, and appearance and cleanliness of the vehicle), respondents indicated both the importance of the attribute to their decision-making and their perception of how well the attribute described public transportation. Figure 3-15 shows each of the seven attributes plotted on a graph based on the respondents' perception of how well the attribute describes public transportation (performance) and the importance respondents gave to each attribute (importance). The upper right quadrant of the graph represents areas of strength for public transportation. If an attribute appears in the upper right quadrant, then the respondents rated both the attribute important and public transportation higher on that attribute. The lower right quadrant of the graph represents areas to improve for public transportation. If an attribute appears in the lower right quadrant, then the respondents rated the attribute important, but rated public transportation lower on that attribute.

The respondents place a high priority on their personal safety and they consider public transportation safe. Safety, then, is a positive area of strength for public transportation. Public transportation scores well in the areas of cost and appearance/cleanliness, but they are less important to the respondents. To increase ridership and improve public perceptions, public transportation needs to focus particularly on service, operations, and marketing efforts to improve perceptions of the attributes in the lower right quadrant of Figure 3-15. The respondents rate public transportation lower on convenience and flexibility as well as travel time and reliable arrival times. Moreover, they consider these same attributes very important to the mode choice decision-making. These four issues coincide with the primary reasons respondents offered for not using public transportation more frequently (see Table 3-10).

Figure 3-15:
Public Transportation Importance and Performance

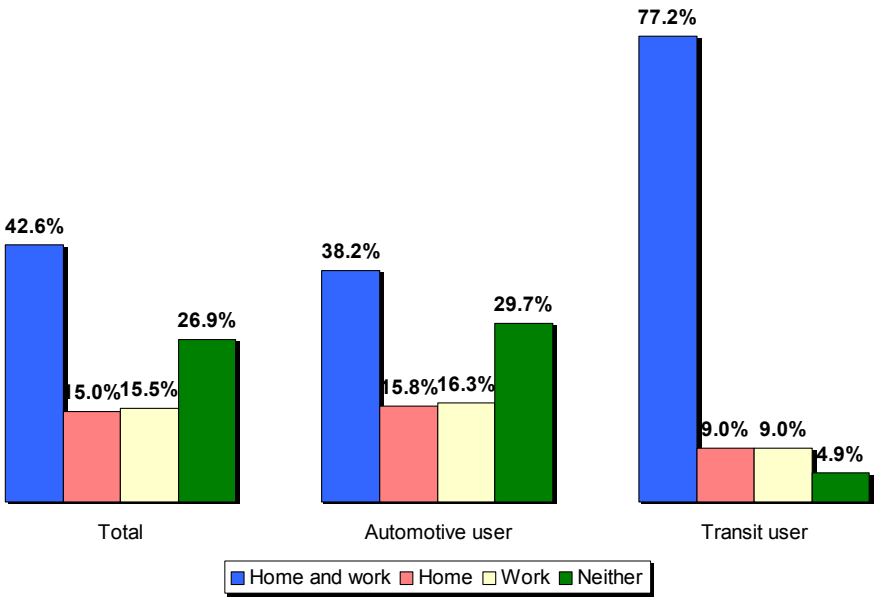


3.5. TRANSIT AWARENESS

Access to Public Transportation

Convenient access to public transportation near their homes and work facilitates the use of public transit. Figure 3-16 illustrates the importance of convenient access to public transit. Overall, 42.6% of the respondents said they have convenient access to public transit near home and work, 15% of them have access at work only, 15.5% have access at home only, and 26.9% reported that they have no convenient access to public transit. Most public transit users (77.2%) stated that they have convenient access to public transit near their homes and work. In sharp contrast to transit users, just 38.2% of the respondents who drive their own vehicle or ride in a carpool indicated they have convenient access to public transit near their homes and work. Only 4.9% of the transit uses said they do not have convenient access to public transit compared to 29.7% of automotive users.

Figure 3-16:
Convenient Access to Transit at Home or Work



Similar numbers of respondents who are heavier transit users (79.5%) and lighter users (73.1%) reported that they have convenient access to public transportation near their homes and work. Whether factual or merely perceptual, non-users claim they do not have convenient access to public transportation.

Respondents living in the more rural areas of the state present an ongoing challenge to increasing ridership. As Table 3-8 shows, respondents living in rural or semi-rural areas of the state reported significantly lower levels of "convenient" access to public transportation than found in urban areas. In the most rural areas of the state, 52.0% of the respondents said they did not have convenient access to public transportation near their homes or work.

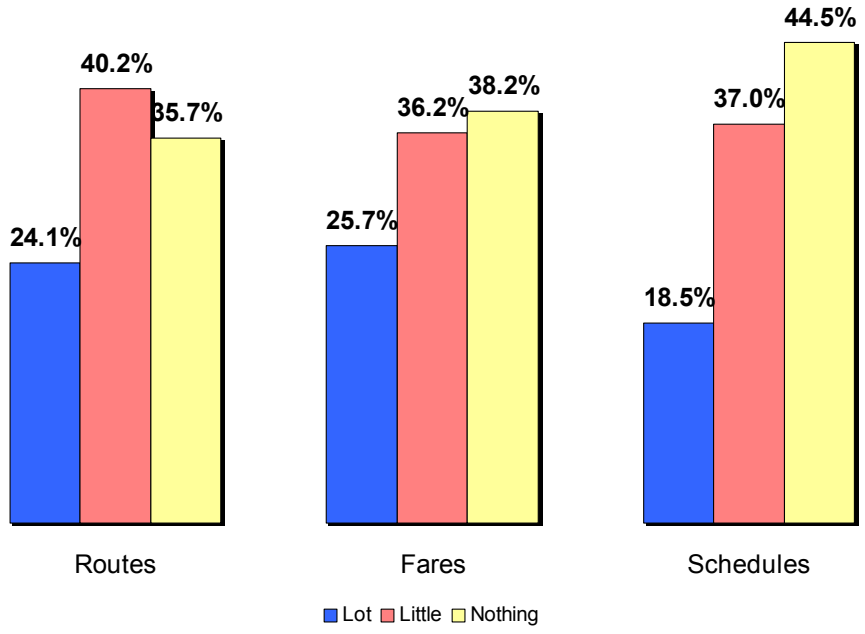
Table 3-8:
Convenient Access to Public Transportation

MPO	Home and work	Home only	Work only	None
MTC	46.9%	16.4%	15.6%	21.1%
SCAG	45.6%	15.0%	14.1%	25.3%
SANDAG	44.0%	18.8%	14.9%	22.3%
SACOG	37.9%	12.6%	24.7%	24.7%
AMBAG-SLOCOG-SBCAG	36.4%	18.2%	12.9%	32.6%
COFCG-TCAG-KCOG	32.7%	10.1%	16.7%	40.5%
SJCOG-STANCOG-MCAG	30.3%	10.1%	18.3%	41.3%
All Others (Rural)	20.0%	10.7%	17.3%	52.0%

Knowledge of Public Transportation

The respondents were asked whether they knew a lot, a little, or almost nothing at all about public transportation routes, fares, and schedules in their area. Looking at Figure 3-17, approximately one quarter of the respondents said they knew "a lot" about the public transportation routes (24.1%) in their area and the fares (25.7%) in their area. They revealed less familiarity with the schedules (18.5%) in their area. A significant proportion of the commuting public knows "little" or "nothing" about public transportation routes, fares, and schedules.

Figure 3-17:
Knowledge of Public Transportation



As the numbers in Table 3-9 demonstrate, public transit users know more about the routes, fares, and schedules. Lighter users possess the same level of knowledge of the routes, fares, and schedules as heavier transit users. By comparison, non-users know very little about public transportation. Despite their greater familiarity with public transit information, even the existing transit users need better or more information about the schedules. Only 58.5% of the heavier transit users (4 or more time a week) said they know "a lot" about the public transit schedules in their area.

Table 3-9:
How Much Do You Know About the Public Transportation in Your Area

	Routes			Fares			Schedules		
	Lot	Little	Nothing	Lot	Little	Nothing	Lot	Little	Nothing
Non-user	19.6%	41.2%	39.2%	20.2%	37.4%	42.5%	14.1%	37.0%	48.8%
Lighter user	56.0%	38.8%	5.2%	70.1%	26.1%	3.7%	44.0%	47.0%	9.0%
Heavier user	62.0%	29.5%	8.5%	69.2%	26.9%	3.8%	58.5%	30.3%	11.1%

Respondents living in the MTC service area (particularly in San Francisco where 78.4% knew a lot about fares; 67% knew a lot about routes; and, 46.4% knew a lot about schedules) and SANDAG claimed the most knowledge of public transportation routes, fares, and schedules.

3.6. TRANSIT USAGE

Reasons For Not Using Public Transit

Consistent with the importance of convenience and flexibility in their mode choice hierarchy, those two issues relate directly to the top three categories of reasons given for not using public transportation more often. Access, Speed/Convenience, and Flexibility Issues topped their list of reasons. The respondents most frequently cited travel time as their reason for not using public transportation more often. Table 3-10 contains a listing of the reasons respondents offered for not using public transportation more often.

Table 3-10:
Why Not Use Public Transportation More Often

Speed/Convenience Issues	**28.9%**
Takes Too Long/Travel Time Longer	16.3%
Inconvenient/Not Practical-General	7.8%
Don't Like to Wait/Long Wait Time	4.6%
Too Many Stops/Don't Like Transfers/No Express Service	3.0%
Inconvenient in an Emergency	0.8%
Access Issues	**26.6%**
Routes Inconvenient/None Near Destination/No Direct Routes	11.5%
Transit Service Unavailable/No Access to Public Transit	10.4%
Bus Stops/Stations Too Far Away	5.7%
Flexibility/Control Issues	**22.6%**
Prefer Freedom/Convenience of Own Vehicle/Easier to Take Car	7.7%
Need Car During the Day/Need More Flexibility/Run Errands	6.7%
Need Vehicle for Work	3.7%
Transport Children to School/Day Care	3.7%
Transport Tools/Equipment/Supplies	1.8%
Want Control/Don't Like to Depend on Others	1.1%
Schedule Issues	**18.8%**
Schedules Inconvenient/Not Flexible/Doesn't Fit Schedule	6.5%
Unreliable/Runs Late/Concerned About Arriving on Time	5.4%
Not Late Enough/Not Early Enough	5.0%
Schedule Varies/No Consistent Schedule/Irregular Work Hours	2.2%
Not Frequent Enough	1.3%
Prefer Car/Prefer Walk/Ride Bike	**14.6%**
Have a Car/Prefer My Car/Like to Drive Car-General	12.6%
Prefer to Walk/Ride Bike	1.7%
Have Company Car/Work Pays for Car	0.5%
Travel Experience Issues	**11.1%**
Not Safe	4.3%
Don't Like People Who Use It/No Affinity with Users	2.7%
Prefer Privacy/Lack of Privacy	2.6%
Crowded/Noisy	1.7%
Not Clean/Uncomfortable	1.5%
Weather Issues	0.5%
Cost Issues	**3.3%**
Other	**8.9%**
Close To Work/Destination/Isn't Necessary/Live in Small Town	3.9%
Don't Know How to Use It/Need More Information	2.7%
Other	2.4%
Don't Like It/Never Used It/Not Interested/Don't Need It	**4.8%**
Currently Use Public Transportation	**5.9%**
Don't Know/No Reason	**0.9%**
Base	3,302

The data also shows that:

- Travel time is a significant barrier for respondents in the SANDAG service area (San Diego County). Twenty-seven percent (27.0%) of them said that the travel time kept them from using public transportation more often.
- Non-existent, limited or inconvenient access prevents more respondents in the Inland Empire (SANBAG and RCTC) from increasing their use of public transportation.
- A significant number of respondents (29.3%) living in rural counties said their lack of access to any transit service prevents them from using public transportation.

- Residents of the OCTA service area (Orange County) and the RCTC service area (Riverside County) expressed concerns about the flexibility of public transportation. More than other areas of the state, they preferred the perceived convenience of their own car to public transportation.
- Older respondents (65 years of age and older) listed limited access to public transportation (42.6%) as their main reason for not using it more often.
- The college educated, those earning over $60,000 a year, and Caucasians, more frequently cited lack of convenient access to public transportation as an impediment to usage.
- While not high on their list of reasons for not using public transportation, women (6.0%) expressed more concern about safety than men (2.5%).
- Not surprisingly, respondents with children under age 16 more frequently cited the need to transport children to school/daycare as an obstacle to their use of public transportation.
- African-Americans, Hispanics, and respondents earning less than $30,000 a year indicated that they owned cars and preferred to drive them rather than ride public transportation.
- Respondents working in Precision Production/Craft/Repair need their vehicles to transport tools and equipment. This need keeps them from using public transportation more often.
- Scheduling conflicts, specifically a lack of late night or early morning schedules, limited public transit usage by respondents working as Operators/Fabricators/Laborers.
- Lighter transit users offered essentially the same reasons as non-users for not using public transit more frequently. Access issues and Speed/Convenience issues (particularly travel time) limit their use of public transit. They also voiced concerns about their need for their car during the day and the cost of transit.
- Non-users value convenience and flexibility. Many of them cited a lack of convenient or easy access to public transit stops and stations. They think the trips take too long with too many stops and too much waiting. Many want the freedom and flexibility of their own vehicle to run errands, to transport children, to just drive. Fewer of them expressed concerns about the schedules and reliability of public transportation.

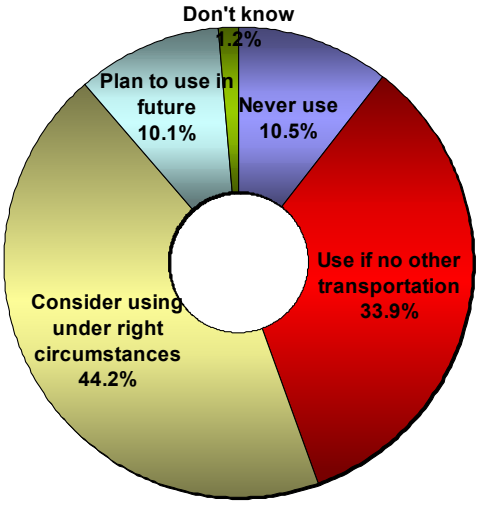
Increasing Transit Usage

The respondents were asked two questions to obtain a sense of their willingness to use and/or increase their use of public transportation. The respondents were first asked the question: "Which of the following statements best describes your use of public transportation to commute to work?" and then to read the following four statements:

I would never use public transportation under any circumstances.
I would only use public transportation if I had no other transportation.
I would consider using public transportation under the right circumstances.
I plan to use public transportation in the future.

As Figure 3-18 illustrates, the respondents fell into two smaller groups of equal size and two larger groups. The two smaller groups represent polar extremes. A group consisting of 10.5% of the respondents expressed intense resistance to the use of public transportation, saying they would never use it "under any circumstances." At the opposite extreme, 10.1% of the respondents said they plan to use it in the future. The remainder of the respondents split between those who would consider using public transportation "under the right circumstances" (44.2%) and those who would use it only if they had "no other transportation" (33.9%).

Figure 3-18:
Future Use of Public Transit



- The 10.1% of the respondents who said they plan to use public transportation consists of a combination of those who already use it and those who do not currently use it. Just under half of them (46.0%) currently drive alone or in a carpool.
- More respondents living in the MTC service area (17.7%), particularly in San Francisco (43.3%) plan to use public transportation in the future.
- The survey also asked the respondents to use a one to seven scale to rate their likelihood of increasing their public transit usage over the next twelve months. As Figure 3-19 illustrates, 10.0% of the respondents surveyed assigned a very high likelihood (6 or 7) of increasing their use of public transportation over the next 12 months. These responses give some initial indication of the size of the potential pool of respondents who might increase their use of public transportation.

Figure 3-19:
Increase Public Transit Use Next 12 Months

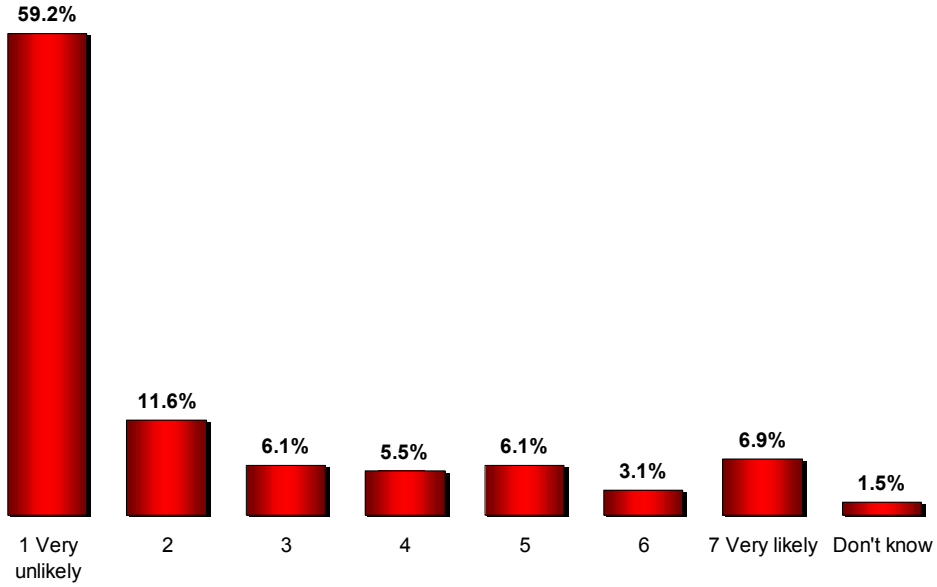
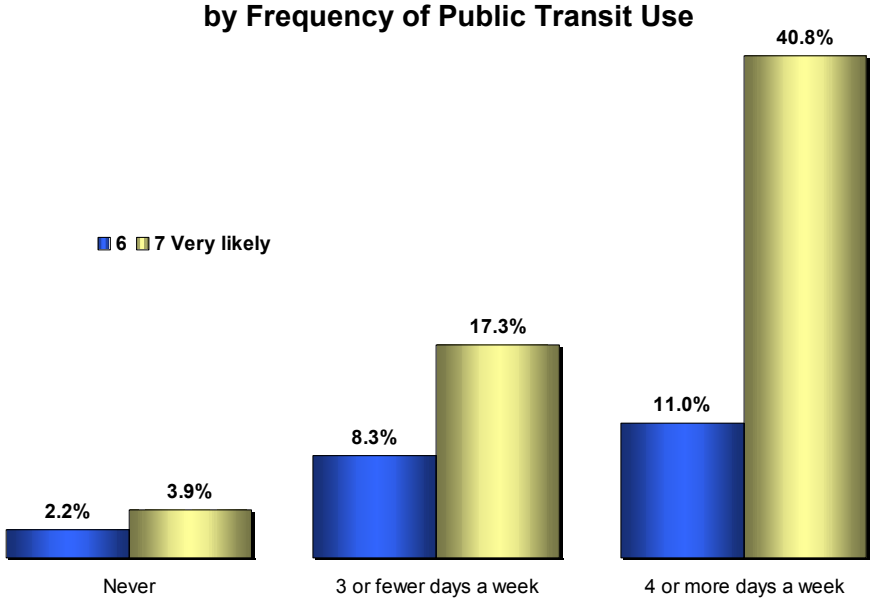


Figure 3-20 suggests that lighter transit users (ride transit 1 to 3 days a week) represent a good target market for increased public transit usage. More of them than those who never use transit said they were very likely (a seven) to increase their use of public transit in the next 12 months (17.3% compared to 3.9%).

Figure 3-20:
Likelihood Increase Public Transit Usage
by Frequency of Public Transit Use



3.7. CONCLUSIONS

Fairfax Research used the following logic to derive a variable aimed at identifying a tangible target group most likely to increase their transit ridership. The derived variable consists of all respondents who answer response 3 or response 4 to question 52 (for other or all questions see Appendix C):

52. Which of the following statements best describes your use of public transportation to commute to work?

1. **I would never use public transportation under any circumstances**
2. **I would only use public transportation if I had no other transportation**
3. **I would consider using public transportation under the right circumstances**
4. **I plan to use public transportation in the future.**

And, who answered response 6 or 7 to question 53:

53. Again thinking of a scale from "1" to "7," where "1" means very unlikely and "7" means very likely, how likely are you to increase your use of public transportation to commute to work in the next 12 months?

Their combination of responses to questions 52 and 53 qualifies them as "interested" potential transit users more likely to either begin using or increase their current use of public transit. This group of respondents comprises 7.8% of the sample (256 respondents). Fairfax Research then used the respondents self-reported transit usage (e.g., never use, use 1-3 times a week, or use 4 or more times a week) to further segment them into the following three target groups in Table 3-11.

Table 3-11:
Target Groups

Name	Definition	Sample Size	Percent of Sample
Recruits	Do not currently use transit but most likely to begin use	127	3.8%
Occasionals	Use public transit 1-3 times a week and likely to increase use	29	0.9%
Regulars	Use public transit 4 or more times a week and likely to increase use	100	3.0%

Obviously, not all of these respondents would actually start using or increase their usage of public transportation, but even a fraction of them switching to or increasing their usage of transit represents a significant target market. While these groups give direction for a potential target market size, their small sample sizes severely limits the scope of the attitudinal, behavioral, and demographic profiling.

A less ambitious approach would focus on increasing ridership among existing users rather than recruiting new ones. This would involve focusing on lighter transit users rather than educating and converting non-users. This approach mitigates potential policy and political problems resulting from real or perceived neglect of existing users.

The following analysis uses the telephone survey findings to answer, at least in part, the questions posed by The Department. Keep in mind that nearly every demographic subgroup contains individuals who conditionally express a willingness to increase usage in the future. All subsequent analysis focusing on these three groups requires very cautious and only preliminary interpretation. The first group (Recruits) consists of 127 respondents with a confidence interval of $\pm$ 8.7%. The second group (Occasionals) consists of 29 respondents with a confidence interval of $\pm$ 18.2 percentage points. The third group (Regulars) consists of 100 respondents with a confidence interval of $\pm$ 9.8 percentage points).

3.7.1. SERVICES

Question 1: Identify the opinion, expectations, and travel behavior of non-traditional transit commuters.

Rather than making the findings fit the label of "non-traditional transit users," the label needs to fit the findings. The following section provides a general sketch of two of the three potential target groups. The sample size of 29 for the Occasionals group is too small for any analysis.

Recruits

- They currently drive cars, trucks, or vans (93.7%). A smaller number of them walk (2.4%) or ride a bike (5.5%)
- Their average commute times from home to work (16.6 minutes) and from work to home (16.4 minutes) do not differ from the average commute times of respondents with little or no interest in using public transit.
- Compared to respondents with little or no interest in increasing their use of public transit, more of them make a within downtown commute (19.7% compared to 11.3%) while fewer of them make a city-to-city commute (26.0% compared to 36.0%).

- Like non-interested respondents, when selecting a mode of transportation for their commute to work, they place the highest importance on reliable arrival time, convenience, safety, and flexibility. However, they differ in the higher importance they place on the cost of parking, the availability of parking, the cost of driving, traffic congestion, and the availability of transportation once at their destination. Perhaps the potential cost savings of public transit appeals to this group.

Regulars

- They already use public transit, e.g., the bus (77.0%) or subway (20.0%). Some 12.0% of them infrequently use a car, truck, or van.
- Their commute time to work averages 25.2 minutes.
- They tend to make within downtown commutes. Compared to respondents with little or no interest in increasing their use of public transit, more of them make a within downtown commute (34.7% compared to 11.3%) or a suburb-to-downtown commute (21.0% compared to 11.7%).
- *Regulars* also value reliable arrival time, convenience, safety, and flexibility. They place higher importance on the cost of parking, traffic congestion, the availability of transportation once at their destination, travel time, and the appearance of the vehicle. Their experience with busses makes them more sensitive to the appearance and cleanliness of the vehicle and travel time. Increasing usage among this group may mean more emphasis on cleaner busses with routes that are more direct and make fewer stops.

Question 3: Identify occasional and non-traditional transit riders' expectations and opinion toward the speed, frequency, and connectivity of the transit system.

Recruits

While not transit users, they have a more favorable perception of public transit than do those respondents with little or no interest in increasing their use of public transportation. On the attributes describing public transit, they consistently rated it higher on each attribute than did those who have no interest in transit.

As Table 3-12 indicates, they rated public transportation higher on the attributes of flexible, provides frequent service, clean, travel time is reasonable, convenient, people who are like me use it, inexpensive, travel time is reliable, and safe.

Table 3-12:
Perceptions of Public Transportation

	Recruits	Regulars	Less Interested
Flexible	4.77	5.40	3.51
Provides frequent service	5.40	5.90	4.46
Clean	5.47	5.36	4.34
Travel time is reasonable	5.25	5.92	4.05
Convenient	4.99	6.00	3.68
People who are like me use it	4.98	5.98	3.37
Inexpensive	5.11	5.41	4.66
Travel time is reliable	5.17	5.57	4.23
Safe	5.85	6.11	5.04

- They need better access to public transit. They do not use it now because of lack of direct or convenient routes (10.2%), the stations/stops are too far away (7.1%), or they simply have no access to public transportation (8.7%).
- The convenience of their preferred transportation mode ranks very high with this group.
- Another hurdle to their increasing use of public transportation is their concern about long travel times (7.9%) and long wait times (6.3%). They want to arrive on time to work.
- Some 7.9% of them say their need for their cars during the day limits their use of public transportation. This finding is consistent with their emphasis on having access to transportation once at their destination.

Regulars

They already use public transportation, and as Table 3-12 above confirms, they rate it higher than the other respondents do. Make the service faster with less wait time. Find ways to shorten the total travel time for this group. Focus on service that is more frequent and offer more express routes.

Question 4: Identify if current transit service is responsive (adequate or inadequate) to changes in the geographical distribution of population and suburban expansion.

Due to small sample sizes, the research data provides only limited direction on this question. The shifting distribution of the state's population suggests the potential for ridership growth in suburban and rural areas. However, respondents with a suburb as their commute origin or destination complain about the longer travel time and inconvenience they associate with public transit. They want a shorter commute than they perceive public transit offers them. Many respondents commuting to or from rural areas of the state identified a lack of assess to public transit or, if they had access, indirect and inconvenient routes for their commutes. The issues of lengthy travel times and limited access keep respondents in growth areas of the state from using public transit more often. This suggests a degree of inadequacy in current transit service.

Question 5: Determine the reason why non-traditional transit riders use or do not use public transit.

Recruits need better access to public transit. They do not use it now because of lack of direct or convenient routes (10.2%), stations/stops too far away (7.1%), or they simply have no access at all (8.7%). Convenient transportation is important to this group. They also listed long travel times (7.9%) and long wait times (6.3%) as reasons for not using public transportation more frequently. Often, the long travel and wait times prevent them from arriving on time to work. Some 13.4% of the *Recruits* prefer to drive their car. Addressing their other concerns will diminish the saliency of this issue.

Question 6: Identify non-traditional rider's expectation and opinion towards the transit facilities (station and park-and-ride) services.

The respondents were not specifically asked to evaluate transit facilities. None of the respondents mentioned services at the transit facilities as a reason for not using public transportation more often.

Question 7: Determine what areas of services and facilities are most important to the traveling consumers and measure how well the transit mode performs with the nine economic regions.

Due to limitations of questionnaire length, the questionnaire did not incorporate any questions specifically addressing the respondents' perceptions of facilities (station and park-and-ride). The questionnaire asked the respondents to rate the importance of a list of attributes to their mode choice decision and their perceptions of how public transit performed in those areas. As Table 3-13 shows (all respondents in the sample), their highest priority factors in their decision of whether to drive their own vehicle or use some other mode of

transportation are safety (6.33), reliable arrival time (6.13), convenience (5.80), flexibility (5.79), and travel time (5.55).

Table 3-13:
Mode Choice Decision Criteria Importance

Personal safety	6.33
Reliable arrival time at your destination	6.13
Convenience	5.80
Flexibility	5.79
Travel time	5.55
The traffic congestion	5.18
The cost of driving	4.99
The appearance and cleanliness of the vehicle	4.95
The availability of transportation once at your destination	4.87
The availability of parking	4.85
Privacy	4.58
The cost of parking	3.95
Base	3,302

Figure 3-15 shows that the respondents rate public transit low on three of their four most important mode choice criteria. Public transit does fairly well on safety, but on the factors of reliability, convenience, and flexibility, respondents expect public transportation to make improvements. Earning ridership requires improvement in both service and perception. Respondents consistently emphasize the importance of these factors. In general, this requires better, more effective marketing, earned media through satisfied customers spreading the word, and, where warranted, improvements in schedules, routes, service offerings, accessibility, punctuality, and travel time.

As Table 3-14 portrays, respondents in rural areas of the state generally rate transit lower for frequency of service, convenience, and a sense of affinity with the other passengers. They also voiced concerns about their limited access to public transportation.

Table 3-14:
Mode Choice Criteria by MPO

	SACOG	MTC	SCAG	SANDAG	SJCOG STANCOG MCAG	AMBAG SLOCOG SBCAG	COFCG TCAG KCOG	Rural Areas
Flexible	3.59	3.64	3.60	3.67	3.89	3.29	4.04	3.41
Provides frequent service	4.67	4.44	4.60	4.84	4.52	4.32	4.61	4.00
Clean	4.34	4.45	4.31	4.73	4.73	4.58	4.53	4.70
Travel time is reasonable	4.31	4.21	4.13	4.02	4.40	4.17	4.26	4.23
Convenient	3.70	3.91	3.80	3.89	4.00	3.63	4.06	3.43
People like me use it	3.43	3.83	3.43	3.55	3.34	3.59	3.73	3.13
Inexpensive	4.68	4.61	4.70	4.65	4.88	4.86	5.07	4.78
Travel time is reliable	4.45	4.29	4.27	4.35	4.43	4.31	4.52	4.43
Safe	4.95	5.20	4.98	5.32	5.26	5.28	5.21	5.45

3.7.2. OPERATIONS

Question 1: What is the operational problem in attracting the growing share of non-traditional transit riders? Identify the barriers for transit operators to attract non-traditional transit riders.

Potential and existing riders want convenience, flexibility, safety, and punctuality. This requires more routes, more frequent or expanded service, closer/better access to stops/stations (park-and-rides), and express or semi-express service. The cost of implementing these modifications represents a major impediment to change. Current funding and capacity constraints limit the operators' ability to completely address these issues.

Areas of the state with denser populations represent a good prospect for increasing transit ridership. Those respondents making commutes within downtown rate transit higher on their most important mode choice criteria—flexibility, convenience, and punctuality—than respondents making rural or suburban commutes. As Table 3-15 shows, a sizeable number of respondents making some type of rural commute said they do not ride transit more often because they lack convenient access to service in their area.

Table 3-15:
Rural Operations Issues

	Within Rural Area	Rural to Suburb	Rural to Downtown
Total Access Issues	**41.8%**	**38.9%**	**37.0%**
Routes inconvenient/None near destination/Do direct routes	11.8%	12.4%	12.7%
Transit service unavailable/No access to public transit	26.6%	22.1%	19.4%
Bus stops/stations too far away	4.9%	4.4%	6.1%

As Table 3-16 shows, 60.6% of the respondents who commute to work within downtown said they have convenient access to public transit at home and work. Among respondents making a suburb to downtown commute, 50.5% said they have convenient access to transit near home and work and another 21.3% said they have convenient access to public transit near work. Among respondents making a downtown to suburb commute, 26.3% said they have convenient access to transit near their homes. By comparison, 47.9% of those respondents who commute to work within rural areas said they *did not* have convenient access to transit near their home or work. Much smaller proportions of rural commuters (commuting within their rural area, rural to suburb, or rural to downtown) have convenient access to public transit near their homes.

Table 3-16:
Convenient Access to Public Transportation by Commute Type

	Home and work	Home only	Work only	None
Within downtown	60.6%	8.9%	12.1%	18.5 %
Within suburb	44.3%	15.3%	13.0%	27.4%
Within rural area	28.1%	14.8%	9.1%	47.9%
Downtown to suburb	37.3%	26.3%	13.6%	22.9%
Suburb to downtown	50.5%	9.9%	21.3%	18.3%
City to city	39.8%	18.3%	15.4%	26.5%
Rural to suburb	28.3%	15.9%	21.2%	34.5%
Rural to downtown	28.5%	9.7%	29.1%	32.7%

Question 2: Identify whether the current public transportation operations meet the needs for future market changes.

It appears that current transit services in many cases fail to meet the needs of existing *Recruits*. In general, the respondents want service that is faster, more frequent, more convenient, and easier to access. More specifically, *Recruits* want shorter travel times (7.9%), shorter waits (6.3%), better routing (10.2%--more direct and closer to their origins and destinations), access to any transit service (8.7%), and expanded service hours (7.1%). The flexibility they enjoy with their own vehicles keeps them from using transit (13.4% of them). With a few exceptions, and in the current economic climate, the operations of the existing system simply do not meet the needs of *Recruits*. Consequently, they will keep driving their own vehicles. The realization of the predicted growth for California will only exacerbate the insufficiency of the existing operations, particularly in suburban and rural areas, if changes are not made.

Question 3: How is public transportation performing regarding the development of full service transit system that has the ability to meet a variety of customer needs? Where and how?

Areas of the state like SANDAG, MTC, SACOG and the LACMTA offer public transportation services that more closely approximate the needs of a variety of customers. Currently, the best prospects for increasing usage among *Recruits* and *Regulars* exists in areas with concentrated populations.

As the percentages in Table 3-17 show, a significant proportion of *Regulars* commute within downtown (34.0%) or from one city to another city (24.0%). This configuration of commute types lends itself better to existing transit operations. Many *Recruits* also commute within downtown (19.7%). However, a sizeable number of them make within suburb (18.9%) and within rural area commutes (12.6%). These types of commutes, given what the *Recruits* value, will require adjustments to the existing transit service in order to switch them to public transit usage.

Table 3-17:
Commute Type by Prospect Type

	Recruits	Regulars	Low Interest
Within downtown	19.7%	34.0%	11.3%
Within suburb	18.9%	9.0%	21.0%
Within rural area	12.6%	1.0%	8.0%
Downtown to suburb	3.9%	4.0%	3.5%
Suburb to downtown	8.7%	21.0%	11.7%
One city to another city	26.0%	24.0%	36.0%
Rural to suburb	3.9%		3.5%
Rural to downtown	6.3%	7.0%	4.9%

Question 4: What areas of the operating strategies are effective in attracting the non-traditional transit rider?

Any strategy that incorporates expanded service hours, more convenient access, more frequent service, punctual arrivals, and express or limited stop service appeals to *Recruits* and *Regulars*—anything that eases access and shortens the trip time.

3.7.3. PROMOTIONS

Question 1: Identify the potential market areas of the non-traditional transit riders' commuting pattern (between counties, suburb-to-suburb, suburb-to-central cities and between cities).

Respondents making commutes within downtown view public transportation more favorably than other respondents do. The best infrastructure for transit exists in more urbanized areas—respondents making commutes within downtown or from city-to-city. As Table 3-16 above indicates, more *Recruits* and *Regulars* make commutes within downtown. City-to-city commuters, though not as predisposed to transit, represent 26.0% of *Recruits* and 24.0% of *Regulars*.

Question 2: Which of the current promotional strategies is effective in attracting non-traditional transit riders and primary riders?

Those respondents who do not use public transportation have a low level of awareness of public transportation fares, schedules and routes. Even riders have a relatively low level of awareness of schedules. These results suggest that any information promoting public transportation is either not getting out or not very effective—the non-users have not seen it or they do not remember it. The general non-rider public knows little about public transportation. Importantly, *Recruits* (though their knowledge is notably more limited than that of either *Occasionals* or *Regulars*), *Occasionals*, and *Regulars* all know more about public transportation than those with no interest in increasing ridership. In conjunction with legitimate service and operational improvements, information, properly prepared and delivered, builds understanding and engenders interest.

Question 3: How do non-traditional transit riders perceive bus, commuter and urban rail services and their promotional strategies?

The respondents lack sufficient substantive knowledge about fares, schedules, and routes, suggesting that the promotional efforts have limited reach and/or effectiveness.

Question 4: What are the identifiable distinct differences between transit users and non-transit users?

The following profiles are based on the total sample rather than smaller sample sizes for *Recruits*, *Occasionals*, and *Regulars*.

Heavier Transit Users (4 or more days a week)

These respondents have the following characteristics:

- Heavy bus/trolley bus users;
- More frequently make commutes within downtown or from the suburbs to downtown;
- More of them than lighter users or non-users are single and never married;
- They have fewer licensed drivers in the household;
- They have access to fewer vehicles than lighter users or non-users;
- Less well educated than lighter transit users or non-users;
- Younger than non-users with more or them between 18 and 39 years old;
- More of them live in apartments than non-users;
- More of them are Hispanic or African American than non-users;
- A higher proportion of them than non-users live in the MTC service area;

- More of them have convenient access to public transportation near home and work; and,
- They rate public transportation higher than non-users and lighter users;

Lighter Users (3 or fewer days a week)

These respondents have the following characteristics:

- Do more commuting within the suburbs than heavier transit users. Their commute patterns more closely approximate those of non-users.
- A higher proportion of them than non-users are not married.
- They have more licensed drivers in the household than heavier transit users and average about the same number of licensed drivers as non-users.
- Have access to more vehicles than heavier transit users but access to fewer vehicles than non-users.
- They are better educated than heavier transit users with more postgraduate degree holders. They have attained education levels similar to non-users.
- Older than heavier users but younger than non-users.
- More of them live in apartments than non-users.
- More ethnically diverse than non-users (more African Americans), but not as ethnically diverse as the heavier transit user group.
- Like heavier users, a higher proportion of them than non-users live in the MTC service area.
- Like heavier users, they have convenient access to public transportation near home and work.
- They do not consider public transit quite as flexible, convenient, or as safe as heavier users. They also evaluate public transit lower on frequency of service, travel time (reasonable and reliable) than do heavier users. The also feel less affinity with the riders than do heavier users. However, they rate transit higher on virtually every one of these attributes than do non-users.
- They offered essentially the same reasons as non-users for not using public transit more frequently. Transit service issues such as Access and Speed/Convenience (particularly travel time) limit their use of public transit. Other concerns they voiced included their perceived need for their car during the day (a flexibility issue) and the cost of transit.

Non-Users

The following characteristics derived from all non-users. *Recruits* appear to differ in some aspects from the general body of non-users. However, the sample size of *Recruits* is too small to paint a conclusive picture.

- More of them are married than public transportation users.
- They have more licensed drivers in the household than heavier transit users.
- They have access to more vehicles than lighter or heavier transit users.
- More of them live in single family detached homes.
- They are less ethnically divers (more Caucasians) than transit users with the exception of *Recruits*. Forty-eight percent of *recruits* are of Hispanic ethnic heritage.
- They are more affluent than either transit user group.
- More of them work in white collar/professional jobs than the heavier transit users.
- Higher proportions of non-users than transit users live in the RCTC (Riverside County) and SANBAG (San Bernardino County).

- They have little or no convenient access to public transportation.
- They consider public transit inflexible and inconvenient. They think the travel time is unreasonable and feel little or no affinity with transit users.
- They listed Access Issues, Speed/Convenience Issues, and Flexibility/Control Issues for not using public transit.

3.7.4. PUBLIC POLICY

Question 1: Identify transit agencies with highest non-traditional ridership rates and identify the transferable best practices or policy of the transit agencies that increase non-traditional transit ridership?

With great caution, given the small sample size, the following RTPA's contain the highest proportion of *Recruits*, *Occasionals*, and *Regulars*: San Francisco (19.6%), Contra Costa (12.4%), Alameda (11.3%), Sacramento (11.0%), and LACMTA (9.3%).

The telephone survey did not address best practices.

Question 2: Evaluate the data and outline policy implications for services, operations, marketing and public policy?

Modify the public policy underlying public transit to allow adjustments and improvements to the system that will appeal to *Recruits*, *Occasionals*, and *Regulars*.

Service: Raise the level of service. Understand the service expectations of the *Recruits*, *Occasionals*, and *Regulars*. Shape and meet those expectations. Offer more express and limited stop routes.

Operations: Run on time. Incorporate more frequent service, improve connectivity to ease the transitions for commuters, and make public transportation easier to access through carefully considered station/stop locations. Add more equipment and keep it clean. Extend hours of operation in appropriate areas. Do not over promise and under deliver.

Marketing: In conjunction with improved service and operations, project a better image of transit. Run promotions designed to attract *Recruits*, *Occasionals*, and *Regulars*. Match the campaign to the specific values of each group. Identify one or two key levers that will motivate *Recruits*, *Occasionals* and *Regulars*. Emphasize the points of fit between public transit and *Recruits*, *Occasionals*, and *Regulars*. Then deliver results.

Public Policy: Make and modify public policy to meet the broader needs of an expanding rider base rather than making the rider base conform to public policy.

Question 3: Identify policies that provide incentives and deterrents to non-traditional transit riders by market segment?

The research provides only general direction for this question. Any policy that fails to address the service and operations needs of *Recruits*, *Occasionals* and *Regulars* will act as a deterrent. Public policy must support the need for service and operational improvements. Marketing campaigns and occasional promotions alone will not change their behavior.

Question 4: What public policy should be developed to promote non-traditional transit riders?

- Encourage better coordination and cooperation between agencies, if not normalized service standards.
- Minimize political considerations in planning.
- Develop a policy to address the higher service and operations requirements of *Recruits*.
- Find a balance between highway construction and public transportation development.
- Focus on more urbanized areas. Develop more cooperation and efficiency in rural areas.
- Build the perception of public transit as a good value that is convenient, safe, reliable, and timely.
- Speed up travel time with more direct routes with fewer stops.

Question 5: How adequate and convenient is the public transportation investment policy to the non-traditional transit rider?

With a few exceptions, primarily in the MTC service area, the survey data suggests that for *Recruits*, *Occasionals*, and *Regulars* the investment policy in public transportation lacks coordination, and is inadequate and inconvenient.

CHAPTER 4: TRANSIT OPERATOR SURVEY

4.1. TASK DEFINITION AND PURPOSE

The initial purpose for development of the transit operator survey was to obtain specific service and operating information to be used in conjunction with the data compiled in the transit operator profiles to assess the match-up of transit services and customer needs. Over the course of the study, it became apparent that this survey data should also be integrated into the GIS. This additional service and operating information when combined with the statewide survey, census and other data, would provide a more comprehensive basis for identifying geographic locations having the greatest potential to attract regular and occasional transit riders.

This chapter documents the process for development and distribution of the survey, and summarizes the survey findings and observations.

4.2. METHODOLOGICAL APPROACH

Working in conjunction with the Department's staff, the consulting team developed a survey of ten (10) questions (see Appendix D for details) generally designed to collect data and information on the following:

- Level of services operated
- Modes and types of services operated
- Service frequency during weekday peak periods
- Operational elements relating to service quality (e.g. avg. # of transfers per trip, etc.)
- Focus of agency marketing efforts and strategies employed
- Issues for further study and research related to increasing transit ridership
- Availability of transit operator routes and service areas in GIS format

Following approval by the Department, the survey was mailed out to ninety-five (95) transit operators in March 2001 with a specified deadline for return. The survey was also accompanied by a data list designed to obtain information from operators who had not responded to previous requests for data. The survey questions were kept to a minimum in order to encourage participation, and in recognition of the fact that the consultant team had contacted operators previously for data.

Twenty-six operators statewide responded representing a twenty-seven percent response rate; fourteen from Northern California and twelve from Southern California, as follows:

Northern California

1. Altamont Commuter Express Authority
2. Central Contra Costa Transit Authority
3. Eastern Contra Costa Transit Authority
4. El Dorado County Transit
5. Livermore Amador Valley Transit Authority (Wheels)

6. Merced County Transit "The Bus"
7. Redding Area Bus Authority (RABA)
8. Roseville Transit
9. San Joaquin Regional Transit District
10. Santa Cruz Metropolitan Transit District (Metro)
11. Siskiyou County Transit
12. Sonoma County Transit
13. UNITRANS/City of Davis
14. Yuba-Sutter Transit

Southern California

1. City of Santa Maria
2. Culver City Municipal Bus Lines
3. Golden Empire Transit District
4. Long Beach Public Transportation Authority
5. Los Angeles County Metropolitan Transportation Authority (LACMTA)
6. OMNITRANS
7. Riverside Transit Agency (RTA)
8. San Diego Transit Corporation (MTS)
9. Santa Clarita Transit
10. Southern California Regional Rail Authority (SCRRA)
11. Star & Crescent Boat Company d.b.a. San Diego Harbor Excursion
12. Victor Valley Transit Authority (VVTA)

The response rate for the return of surveys was lower than anticipated. In addition, operators omitted some responses to questions, making it difficult to draw definitive conclusions. However, the information provided does yield insightful information relative to the issues of matching service to customer need.

The survey results were also used to inform the marketing review and analysis as well as the GIS part of the study. A summary of survey responses and the relevant issues are presented below.

4.3. SUMMARY OF TRANSIT OPERATOR SURVEY RESPONSES

1. How many transit routes/lines by service type/category are currently operated by your agency?

Transit operators were asked to provide information on the number of transit routes/lines by service category that they currently operate, and indicate whether these services are directly operated or contracted. Responses to the survey indicated that bus local circulation services make up the largest category/type of service currently operated. With the exception of agencies operating rail or ferry service only, twenty-three (23) operators (excluding three (3) providers operating only rail or ferry service) indicated that they operate local bus service. Local circulation services are the mainstay of most transit systems, carrying the majority of their ridership. This type of service is designed to provide broad-based connectivity to local destinations and activity centers, within a city or community or between adjacent cities and communities, and can be characterized as follows:

- Buses make frequent stops along designated routes;
- All day operating span of service;
- Routes can be circuitous to achieve maximum coverage; travel times can be lengthy and more than one transfer may be required to complete trips to desired destinations;
- Service generally operated on 30-60 minute headways, some peak-period differential in frequencies.

Transit operator responses to the survey also show that twenty operators provide limited stop and/or commuter bus and/or rail services, although these types of services represent a much smaller proportion of the total services operated, in comparison with local circulation services. Transit operators characterize these types of services as inter-city, inter-county or inter-regional in nature, are in high-demand, and are typically among the most productive services within the system. In addition, these services:

- Provide "rapid" or express "home-to-work" connectivity to destinations that are outside of the local travel environment;
- Operate along designated or fixed travel corridors, serving high activity or employment centers;
- Operate with increased frequency in the morning and evening peak periods; and
- Are designed primarily to meet the travel needs of those making home-to-work trips during the peak travel demand periods.

Of those responding, eighteen operators contract for all or some of their transit service. The remaining eight operators directly operate all of their services. Increasingly transit operators in their efforts to maintain cost-effective services choose to contract out for operation of service. Contracted service provision can result in realization of cost savings on routes that may be difficult to operate, resulting in overall decrease in system operating costs.

2. What is the average headway on peak period weekday transit services operated by your agency (by mode)?

Transit rider and non-rider surveys have shown that service frequency is a key element in attracting riders to transit. For that reason, transit operators were asked to provide the average headway (expressed in minutes) for bus, rail or other services operated weekdays during the peak period in order to determine whether transit services are operating frequently enough to be appealing to potential customers. As shown on Table 4-1 below:

- The combined average peak period headway for all operators responding, bus only is 33.9 minutes (twenty-three operators reporting);
- Fifteen or fifty-eight percent reported that their average weekday peak period headways are between 26-60+ minutes;
- Eleven operators or forty-two percent indicate that their average headway in weekday peak periods is under twenty-five minutes;
- Six operators (five bus and one rail operator) or twenty-three percent of the total responding, report that their average headways are 60+ minutes in weekday peak periods;
- Three operators indicated that their average headways are less than 10 minutes during the weekday peak period.

Even though this operating information is being expressed as averages, the data shows that operating frequencies of transit during weekday peak commute periods are above an acceptable level (headways

between 26-60+ minutes) in more than half the cases. Infrequent service translates to lower levels of service operating on the street. The need for increased service levels and more frequent service repeatedly ranks high for current transit riders and non-riders. Assuming that the most frequent service offered by transit operators is typically operated during the AM and PM peak periods, even peak period service may not be as frequent as it needs to be to attract and retain riders.

Transit operators providing less frequent service, must carefully schedule services and time transfers to ensure that rider connections can be made, in order to lessen travel and wait times for existing and potential customers.

Table 4-1 Average Weekday Peak Period Headway

Transit Operator/Avg. Headway	Under 10 min.	10-14 min.	15-19 min.	20-25 min.	26-30 min.	31-34 min.	35-40 min.	41-59 min.	60+ min.
Altamont Commuter Express									♦
Central Contra Costa TA				♦					
City of Santa Maria					♦				
Culver City Bus Lines			♦						
Eastern Contra Costa TA					♦				
El Dorado TA	♦								
Golden Empire TD			♦						
Livermore Amador VTA			♦						
Long Beach Transit			♦						
LACMTA	♦								
Merced County Transit								♦	
Omnitrans							♦		
Redding Area Bus Authority									♦
Riverside TA									♦
Roseville Transit									♦
San Diego Harbor Excursion			♦						
San Diego Transit Corp.		♦							
San Joaquin RTD				♦					
Santa Clarita Transit					♦				
Santa Cruz TD								♦	
SCRRA					♦				
Siskiyou County Transit	♦								
Sonoma County Transit							♦		
UNITRANS					♦				
Victor Valley TA									♦
Yuba-Sutter Transit								♦	

3. Please provide system information, as available, on the following:

- Average bus speed
- Average number of transfers per trip
- Average walking distance to bus stops
- Average/estimated route length by mode

Transit operators were asked to provide system operating information for the purpose of assessing four operational components relevant to customer needs and preferences (see Table 4-2 Operating Information). For the most part, operators did not provide responses to all four components of this question. Information relative to the average number of transfers and average walking distances to transit stops was limited and/or omitted. This suggests that data may not be routinely collected or available, and/or the information requested was not fully understood.

However, for those responses provided, the consulting team noted:

- With the exception of long-distance commuter bus services, and excluding rail, the average speed of buses in local service is considerably low in comparison to the automobile. This is because buses typically make frequent stops along the route, resulting in slower than average speeds. The result is longer travel times for transit users as compared with the automobile for the same trip.
- In several cases where the length of the route exceeded the average bus speed (mph), trips made on transit operator bus services could take an average of one hour or more to travel the entire length of the route. This translates to lengthy trips for riders on longer routes.
- Walking distances to transit stops are relatively short as indicated by twelve (12) operators, from less that ¼ mile to 1/3 mile (¼ mile generally equals 10 minutes walk time and is generally the standard used in transit operating environments).

The need to walk to another location to access transit can be a deterrent to riding. However, understanding that placing transit stops at every corner would be counterproductive to operation of faster service, the strategy of locating bus stops within close walking distance to encourage transit use is a sound and regular practice of transit operators. However, to be of value to the current and potential riders, the services operated from these stops must be frequent and serve the desired destinations of those wishing to travel.

In transit surveys, existing and potential transit riders indicate their preference for travel on transit without the need to transfer to complete the trip. This survey requested that operators provide information specific to the average number of transfers per trip taken on their system. Only six operators responding to the survey provided information on the average number of transfers per trip. For five of the six operators responding, the average # of transfers was reported between <1 and 2 transfers per trip. (Note: The sixth operator reported that the average # of transfers was 7.29 per trip. This was interpreted as a misunderstanding of the data requested).

TABLE 4-2 System Information				
Transit Operator	**Avg. Bus Speed (mph)**	**Avg. # of Transfers**	**Avg. walking distance to stops**	**Avg./est. route length by mode (miles)**
Altamont Commuter Express	-	-	-	86 miles
Central Contra Costa TA	13.3 mph	-	-	15 miles
City of Santa Maria	-	-	¼ mile	8.2 miles
Culver City Bus Lines	-	-	¼ mile	1.3 miles
Eastern Contra Costa TA	17 mph	-	-	-
El Dorado TA	-	-	-	-
Golden Empire TD	14 mph	-	< ¼ mile	10 miles
Livermore Amador VTA	30 mph	-	¼ mile	5.0 miles
Long Beach Transit	11 mph	-	-	12.86 miles
LACMTA	12.3 mph	0.8	0.5 mile	13 miles-bus 19 miles-rail
Merced County Transit	18.1 mph	2	1/3 mile	8 miles
Omnitrans	13.78 mph	-	¼ mile	12.69 miles
Redding Area Bus Authority	26 mph	-	¼ mile	14 miles
Riverside TA	35 mph	-	-	7.23 miles
Roseville Transit	15 mph	1	-	7 miles
San Diego Harbor Excursion	-	-	-	-
San Diego Transit Corp.	12.35 mph	7.29	-	17.2 miles
San Joaquin RTD	10.6 mph	-	¼ - ½ mile	10.9-Stockton Metro 40.5 Intercity Bus 61.3 Interregional Bus
Santa Clarita Transit	20 mph	< 1	¼ mile	18 miles
Santa Cruz TD	13.54 mph	-	-	12.03 miles
SCRRA	-	1.08	-	68 miles
Siskiyou County Transit	50 mph	-	-	-
Sonoma County Transit	18 mph	-	-	15.84 miles
UNITRANS	10 mph	-	.1 mile	6.3 miles
Victor Valley TA	19.36 mph	-	-	20.1 miles
Yuba-Sutter Transit	15 mph local 45 mph commuter	-	¼ mile	6-8 miles 40-45 miles commuter

4. Are you aware of any current marketing efforts within your agency aimed at increasing ridership on its transit services? If so, please provide us with details of these efforts.

The consulting team conducted a comprehensive marketing document review and analysis as a part of Task 2 (see Chapter 2). Question #4 was included on the transit operator survey to identify any recently implemented transit agency marketing efforts and/or activities not previously captured, and for the purpose of enhancing the observations and findings of Task 2. The consulting team also noted a number of target-specific marketing strategies being undertaken by transit operators, which are summarized below:

- Cooperative ticket vending outlets at major employers or business parks
- Mid-day free fare for seniors and disabled
- Movie screen advertisement with local movie theater inviting residents to our express service
- Direct mail pieces to homes: included employee resident profile, free coupons, and specific transit route information
- 25-cent ride days
- Senior Outreach – special educational program to encourage use of public transit
- Frequent rider program
- Cooperative partnerships with the Student Unions of two colleges to increase the awareness of the fixed-route system. Monthly passes are sold at the Sonoma State University Student Union. In addition, SRJC purchases monthly passes at the regular price from the transit system and resells them to full-time students at a one-third discount
- Summer Cruisin' Pass – Each summer approximately 600 Summer Cruisin' passes are sold. The pass is good for unlimited rides on Sonoma County Transit's fixed-route system between June 1 and August 31 for students who are 18 years of age and younger.

Additional marketing information obtained from the transit operator survey is documented in Appendix D.

5. Which of the following group(s) does your agency focus upon when marketing new or existing transit services?

- Those who ride now and might increase their frequency
- Current riders who may or may not choose to remain riders
- Former riders: Those who rode when they were young and/or financially constrained
- Those who have never used public transit

Transit operators were asked to indicate which rider and non-rider groups are the focal points of their current marketing efforts. The consulting team developed four categories, which included current, former and non-riders of transit. Of the operators responding:

- Eleven indicated that their marketing efforts focused on all categories of riders and non-riders;
- Another eight responded that their marketing focus includes existing riders and non-riders, but not former riders of their system;
- Three revealed that they focus their efforts on those who have never used public transit or *non-riders;* and
- Four had no response to this question.

The responses show that many agencies employ a broad-based approach to marketing, which includes marketing to existing and potential users of transit (see Table 4-3 Focus of Marketing Efforts). Based upon the information provided by transit operators concerning current agency marketing efforts, it is clear that only a limited number of strategies presently employed are

targeted to specific rider groups or markets. This can likely be attributed to lack of knowledge of these groups or markets, and/or strategies that could be useful in motivating them to ride transit.

It is interesting to note that for a small number of operators, former riders of the system are viewed as viable targets for future ridership. However, in a number of cases, operators do not focus their marketing efforts on former users. Understanding that their former riding experiences, being either positive or negative largely shape the opinions of former riders about transit, there remains some belief on the part of transit operators that former transit riders can be convinced to once again use transit. On the other hand, given that there was an initial decision made to cease riding transit, other operators may see limited benefit in investing their scarce marketing resources in an effort to recapture former riders.

Table 4-3 – Focus of Marketing Efforts

Rider/Non-Rider Groups / ***Transit Operator***	**Those who ride now and might increase frequency**	**Current riders who may or may not choose to remain riders**	**Former riders who rode when they were young, financially constrained, etc.**	**Those who have never used public transit**
Altamont Commuter Express	❑	❑		❑
Central Contra Costa TA	❑			❑
City of Santa Maria	❑	❑		❑
Culver City Bus Lines				❑
Eastern Contra Costa TA	No response	No response	No response	
El Dorado TA				❑
Golden Empire TD	❑	❑		❑
Livermore Amador VTA	❑	❑	❑	❑
Long Beach Transit	❑	❑	❑	❑
LACMTA	❑	❑	❑	❑
Merced County Transit	❑			❑
Omnitrans	❑	❑	❑	❑
Redding Area Bus Authority				❑
Riverside TA	❑	❑	❑	❑
Roseville Transit	No response	No response	No response	No response
San Diego Harbor Excursion	❑	❑	❑	❑
San Diego Transit Corp.	No response	No response	No response	No response
San Joaquin RTD	❑			❑
Santa Clarita Transit	❑	❑	❑	❑
Santa Cruz TD	❑	❑	❑	❑
SCRRA/Metrolink	❑	❑	❑	❑
Siskiyou County Transit	❑	❑		❑
Sonoma County Transit	❑			❑
UNITRANS	❑	❑	❑	❑
Victor Valley TA	No response	No response	No response	No response
Yuba-Sutter Transit	❑	❑	❑	❑

6. What issues relative to "non-traditional" transit riders does your agency believe requires further research or clarification?

Transit operators were asked to provide their ideas for further research or investigative activities needed to promote increased understanding of "non-traditional" or choice riders, their needs and preferences. At the direction of the Department staff, the consulting team developed a "working" definition of the "non-traditional" rider to assist transit operators in responding to this question. Operators identified a number of research and investigation questions and topics, which are briefly categorized and summarized, as follows:

1. Composition of the target market (Who is included in the target market in their region or area?)

   Research/Investigation Topics and Ideas Raised by Transit Operators

   - Reverse commute markets

2. Strategies to attract and retain the ridership on transit services (What will it take to attract non-riders to use transit and/or motivate occasional riders to ride more frequently?)

   Research/Investigation Topics and Ideas Raised by Transit Operators

   - ♦ Minimum thresholds for frequency of service, headways and travel time to attract and retain the non-traditional rider
   - ♦ What is the reason, why or why not do non-traditional transit riders use transit in a region?
   - ♦ How much additional time might a person be willing to spend using transit when they have access to an auto?
   - ♦ What incentives would entice a non-traditional customer to get on a bus for the first time?
   - ♦ How high would gas prices need to go before they would turn to public transportation?
   - ♦ What are the key challenges that transit operators must overcome to swing solo drivers from their autos, and become public transit users?
   - ♦ Are free rider offers successful at converting non-riders?
   - ♦ What approach motivates non-riders to become occasional transit riders, promoting the use of transit in conjunction with auto use when appropriate?
   - ♦ Where are the non-traditional riders going?
   - ♦ What time of day does he/she ride?
   - ♦ What are his/her interests? What are his/her reasons for not riding public transit
   - ♦ Additional ferry routes?
   - ♦ The need to decrease or increase commuter hours of service

3. Access and marketing to the identified target markets (How do we reach the target and market to them effectively?)

Research/Investigation Topics and Ideas Raised by Transit Operators

- ♦ Reaching the target audience with information that addresses their perceived need is the challenge.

- How to market effectively to infrequent riders who use service less than two times per week.
- How to target mailing to reach populations likely to use transit.

Survey responses demonstrate that transit operators are lacking in market-related information specific to their service areas. This information is critical in the development of transit services that can address the needs of the traveling public.

7. Does your agency have a working Geographic Information System (GIS) that depicts and geographically maps the agency's transit routes and service area? (Y/N)

Towards of the goal of identifying opportunities for information sharing data and development of useful planning and analytical tools, this question was posed to transit operators. Of the operators responding only eight (8) agencies indicated that they have a working GIS depicting transit routes and service area, with the remaining eighteen (18) providing a negative response. The agencies responding in affirmative were:

- Golden Empire Transit District
- Los Angeles County Transportation Authority
- Merced County Transit
- Omnitrans
- Riverside Transit Agency
- Roseville Transit
- SCRRA/Metrolink
- Unitrans/City of Davis

The lack of affirmative responses to this question amongst the operators participating in the survey suggests that the number of working GIS systems may be low statewide. In order to obtain a more complete picture relative to the availability and usefulness of GIS systems statewide, additional investigation and inventory of should be included as an integral component in future GIS-related research activities.

8. If yes to question #7, please provide information on the following:

- GIS software used
- GIS data format
- Age of data

In an effort to determine the utility of the GIS information developed by those transit operators responding in affirmative to question #7, operators were asked to provide information on their GIS systems currently in use. The responses received are shown below in Table 4-4.

Table 4-4 GIS Parameters			
Transit Operator	***GIS software used***	***GIS data format***	***Age of Data***
Golden Empire Transit District	Map Info DOS version		
Los Angeles County Metropolitan Transit District	Arc View 3.2	Shape files	2 years old
Merced County Transit	Arc View	No response	No response
Omnitrans	Arc View and Arc Info	NAD83, State Planes	Updated annually
Riverside Transit Agency	Teletrac	Unknown	3-4 years old
Roseville Transit	Arc View and Arc Info	ARC/INFO coverages	Varies with dataset
SCRRA/Metrolink	Arc View	Shape files	Varies
Unitrans/City of Davis	Arc View	.shp files (with .dbf data files)	Up to date

9. If yes to question #7 would your agency be willing to share this information with The Department and/or other operators? (Y/N)

Of the eight transit operators answering in affirmative on question #7, six operators indicated their willingness to share GIS information with the Department and/or other transit operators (see Table 4-A). One transit operator responded negatively and indicated that their current version is too old and will be replaced by a Global Positioning Satellite (GPS) in two years. Another operator responded with a yes and no answer, stating that sharing this information would depend upon their current Thomas Brothers licensing agreement.

10. If no to question #7, would your agency consider assistance from the Department or other agencies to develop GIS route and service area data? (Y/N)

Of the eighteen operators initially responding negatively to question #7, twelve operators indicated their willingness to accept assistance from the Department or other agencies to develop GIS route and service area data. One operator responded negatively, and one operator indicated that they would consider assistance dependent upon their staffing levels. These responses show that transit operators recognize the need for additional technical planning and analytical tools and information, and are willing to work with the Department and operators in the development of these tools.

4.4. OBSERVATIONS AND FINDINGS

4.4.1. HOW WELL DO TRANSIT SERVICES ADDRESS CUSTOMER NEEDS

> *"The non-traditional transit rider is encouraged to think of transit as a viable alternative or possible future mode if two things are present: shorter rider times and more frequent headways"* (Omnitrans Transit Operator survey response, May 2001).

The statewide survey conducted as part of this study, as well as other market transit operator survey research, validates the observation made by Omnitrans. Survey research has consistently shown that existing and potential riders of public transit desire that the following elements should be present if transit is to be considered a viable travel option:

- Service reliability – transit services should be on time and conform to printed schedules and operating hours.
- Convenience – transit stops should be located within acceptable walking distance of customer trip ends; minimize wait, travel times and the need to transfer between services
- Flexibility – transit services should be frequent resulting in high service levels to meet varied needs and demand
- Safety – secure operating environment on transit services and at stops and facilities (e.g. transit centers, park-and-ride lots, etc.)

Given the expressed needs of existing and potential customers, the question remains to be asked, how well do the current services provided by transit agencies meet the needs of the traveling public? Although responses to the survey were limited in relationship to the number of public transit operators in the state, there are a number of observations concerning the quality of transit service provided by operators that can be made. Of those elements that have shown to be essential to attract riders to transit, the data collected from the transit operator survey shows:

- The predominant type of service operated by transit agencies is local circulation bus service. This type of service offers maximum geographic coverage and baseline mobility for riders, but is not sufficient to serve the diverse needs of the traveling public.
- Most providers operate premium services, which include limited stop, express, "rapid" and commuter bus or rail service. These services are well utilized by segments of the market, but are only a small percentage of the total services operated, and are limited in scope (i.e. only operated in peak periods and in designated travel corridors).
- The infrequency of service (25-60+ minute headways) in peak and off-peak periods poses a deterrent to those who have other travel alternatives. Riders have less flexible travel plan options, longer waits and travel times. Persons desiring to ride transit during these periods must make their travel plans carefully in order to avoid missing needed connections, thereby minimizing total wait and travel times.
- Travel on the bus can be significantly slower in comparison to the automobile, especially on local bus services. Buses make frequent stops and routes can be lengthy.
- For those operators responding to the survey, reported walking distances to transit stops are considered reasonable by transit industry standards (usually within 10 minutes). However, for those having other options for travel, depending upon the final destination time and safety constraints, the need to walk to access transit stops and centers can create a disincentive to ride transit. In addition, in rural settings the walking distance to bus stops exceeds the acceptable standard, making them virtually non-accessible to many that would ride transit. Additional information is needed to ascertain the public preferences concerning the acceptability of walking to access transit, and whether services offered from designated stops serve the desired destinations and are operated frequently enough.

4.4.2. TRANSIT OPERATOR UNDERSTANDING OF THE MARKET

Transit operators indicated that despite the enormous amount of market research that has been conducted, transit operators remain undereducated and/or unclear about the needs and preferences of even their current riders. In order to remain vital within their operating environments, transit operators must consistently work to educate themselves about who their customers are and what they want. The basic who, what and why market-related questions and topics raised by transit operators *must* be answered in turn by each transit operator, in order to maintain and ultimately increase ridership on transit.

4.4.3. DETERRENTS TO CHANGE

Modification of transit services to meet the needs expressed by riders and potential riders will require an overall agency commitment. There are many factors both real and perceived that can be seen as impediments to making needed service improvements and/enhancements. These factors include:

- Funding and financial constraints. Transit operators indicate they are unable to make the needed system modifications and improvements without additional, on-going funding.
- Policy issues not limited to, coverage versus quality of service, including the misconception that modifying services, which better serve the identified needs of the traveling public, is instead, giving preferential treatment to a specific rider group or market, while ignoring existing riders.
- Unknown or undetermined impacts to current riders, including service interruptions, re-routing, re-scheduling services currently operating;
- Institutional and operational issues: (e.g. labor contract provisions relative to service modification and reassignment; service contracting versus direct operation, fares and pricing, etc).

Each one of the factors discussed above, presents a complex system of issues that must be addressed if changes are to occur. Transit operators must work systematically to:

- Modify underlying institutional and operational policies and practices which constrain their ability to operate services that are useful to the public;
- Identify creative funding sources and mechanisms (e.g. cost savings from internal operational efficiencies, employer subsidies, etc); and
- Obtain management commitments necessary to implement service modifications and improvements to attract and retain riders.

4.4.4. DESIGNING TRANSIT SERVICES TO MEET CUSTOMER NEEDS

Existing services have traditionally been developed to provide the maximum amount of coverage for the minimum cost to the public. Transit routes are primarily designed to serve major destinations and designated activity centers along highway and freeway corridors, local streets and thoroughfares. In many cases, agencies have provided these same routes with only adjustments to the schedules or span of service for many years. Although frequency, convenience and access to these services need improvement, in general, these services provide a reliable

source of transportation for those having limited or no travel options. Because of this fact, operators have perceived their primary role as providing baseline services for their existing riders.

Market data and analysis has definitively shown that transit service must be redesigned, or at a minimum improved, to attract new riders. Before considering reconstructing their services, it is clear that operators must gain more in-depth market-specific information about existing and potential riders. Furthermore, market surveys should not only serve as a measure of system performance, but should also be designed to provide detailed information on rider groups that would be receptive to specific service improvements.

4.4.5. CONCLUSIONS

Transit agencies have taken a "one-size-fits-all" approach to operating and marketing transit services. This "generic" approach has weakened the position of transit as a viable travel option to the public. An alternative approach, which includes the development of policies and priorities favoring the development and operation of market-based services, must be undertaken. This includes operation of services, which are: accessible, frequent, have limited stops, reliable and require limited transferring and wait times. Making some or all of these improvements to existing service may increase transit's ability to compete with other travel options, including the automobile.

Given that transit services are the only "tangible" product of transit operators, these agencies must strive to ensure that the product more closely matches customer needs. Recognizing that each service or operating area will be different, transit operators should conduct area-specific research and investigation in an effort to identify these rider groups or markets, and ascertain their unique needs and preferences.

CHAPTER 5: REGIONAL FOCUS GROUPS

5.1. TASK DEFINITION AND PURPOSE

This chapter describes the efforts and findings related to a series of regional focus groups, designed to solicit information from staff representatives of both transit operators (TOs) and regional transportation agencies (primarily Metropolitan Planning Organizations, or MPOs). The primary goal was to provide the Department with information to aid in their understanding of how the transit community approaches the subject of non-traditional transit riders and other topics relative to promoting ridership on transit. The study objectives in the original request for proposal (RFP) directed the consultant to confer with transit agencies and operators as part of the overall effort to determine their approach to defining and attracting non-traditional transit riders. In response to the objectives of the RFP, the consulting team proposed to:

- Solicit transit operators and regional agency representatives for voluntary participation in regional focus group sessions;
- Conduct nine focus group sessions in each of the Department "economic regions";
- Summarize and evaluate input of focus group participants; and
- Use input from the focus groups to guide development of study recommendations.

5.2. METHODOLOGICAL APPROACH

Two logistical changes were made relative to the original plan for conducting regional focus group sessions, in response to the dynamics of the study as it unfolded. In the original proposal, the consultant conceived of the focus groups as a necessary early effort of the study, in part, to ensure collaboration of affected institutional partners. However, because the goal of transit operator and regional agency participation in the study would be met through planned interface with the Advisory Committee, it was agreed that regional focus groups would be important, but not crucial for that purpose. Further, the amount of material that had been received as part of the Literature Review effort was enormous, and needed to be reviewed and understood if the regional focus groups were to yield as much knowledge as possible. Thus, as other project tasks went forward and refinement of study objectives occurred, it was collectively decided to use the regional focus groups to provide more in-depth coverage of issues that emerged through the literature review. More refined goals for the focus groups, which were ultimately held in May 2001, included:

- Continue to promote face-to-face involvement of transit operators and regional agency representatives and establish the basis for future cooperative ventures with the Department;
- Gather transit operator and MPO perceptions, insights and opinions in an informal transit-friendly setting;
- Identify major points of agreement and divergence of opinion;
- Explore issues facing transit operators and regional agencies in depth;
- Validate or re-think findings, as appropriate; and
- Discuss and refine emerging strategies.

The second adjustment to the original plan for regional focus groups involved the proposed location and number of the sessions planned. Although the original work plan proposed that nine focus group sessions would be held, corresponding to each of the Department's original nine economic regions, a more careful look at the boundaries of the nine regions revealed a mismatch between those original areas and existing commuter sheds and spheres of interregional transportation interaction. Therefore, this approach was revised to better reflect the transit context, while still providing desired coverage and representation of different areas—including northern and southern California, and urban and rural institutions. Ultimately, the consultant conducted six regional focus groups that included 36 staff representatives from 31 different transit operators and MPOs, as follows:

TABLE 5-1

Summary of Regional Focus Groups: Participating Transit Operators and Regional Agencies

Focus Group Location and Date	Participating Agencies
Northern California	
1. Auburn/Placer County, May 15, 2001	❑ Nevada County Transit ❑ Colusa Transit ❑ Roseville Transit ❑ Placer County Transportation Planning Agency ❑ City of Auburn ❑ The Department (Project Manager)
2. Redding Area/Shasta County, May 17, 2001	❑ Glenn County ❑ The Department's District 2
3. MTC/Oakland/Bay Area, May 18, 2001	❑ Central Contra Costa Transit Authority ❑ Sacramento Regional Transit ❑ San Joaquin Regional Transit District ❑ AC Transit ❑ Samtrans/Caltrain ❑ The Department (Project Manager)
4. Hanford/Kings County	❑ Lake Transit (Lake County) ❑ Fresno Area Express ❑ Madera County Transportation Commissions ❑ Kings County Association of Governments ❑ Tulare County Association of Governments ❑ Council of Fresno County Governments
5. Riverside/Riverside County	❑ Omnitrans ❑ SunLine Transit Agency ❑ Riverside Transit Agency ❑ Riverside County Transportation Commission ❑ San Diego Association of Governments
6. Norwalk/Los Angeles County	❑ Los Angeles County Metropolitan Transportation Commission ❑ Santa Clarita Transit ❑ Santa Monica "Big Blue Bus" ❑ Orange County Transportation Authority ❑ Montebello Bus Lines ❑ Foothill Transit ❑ Long Beach Transit ❑ Norwalk Transit ❑ Southern California Association of Governments

5.2.1. DEVELOPMENT OF QUESTIONS FOR REVIEW

In order to ensure that all operators were offered opportunity to participate in the focus groups, the Consultant contacted over seventy-five (75) agencies throughout the state by telephone to:

- Identify appropriate contacts in each agency;
- Identify and obtain permission to use facilities (meeting and conference rooms);
- Introduce and describe project objectives and status; and
- Schedule meeting dates and times to be conducive to maximum participation.

Participants were e-mailed, mailed and faxed information on the project including the project objectives and a recent status report and presentation. In addition, the consultant team responded to numerous project-related inquiries received from interested operators and agencies.

The list of focus group topics for discussion was developed in response to information collected in the Task 2 Literature Review, and in cooperation with the Department. This list was e-mailed to each confirmed participant one week prior to their respective focus group, so that questions could be responded to prior to the sessions.

5.2.2. FOCUS GROUP TOPICS FOR DISCUSSION

The following list of topics was used as the basis for discussion for each focus group.

1. **Is increasing transit ridership a goal of your agency? Explore agency response affirmative or negative.**

2. **How does your agency categorize transit riders (e.g. commuters, transit-dependent, etc)?**

3. **In promoting the use of transit, what category of transit rider/non-rider has your agency marketed its services to? Discuss agency marketing goals.**

4. **Discuss agency priorities in promoting use of transit (e.g. system-wide across-the-board marketing, new services, non-productive service)?**

5. **Ascertain agency understanding/definition of the "non-traditional" transit rider (as appropriate). What information/research might prove useful to the agency in understanding this rider group?**

6. **What efforts (if any) are underway on a local or regional level to increase non-traditional transit ridership? What specific actions/strategies has your agency taken to increase ridership on its services by riders? By non-riders?**

7. **How does your agency define marketing effectiveness? Ascertain operational, promotional or marketing actions/strategies/inducements employed by transit agencies that have been effective or had limited effectiveness in increasing transit use. (Discuss what has worked and what has not).**

8. **What factors need to be considered in developing strategies intended to increase market share in this rider group?**

9. **Discuss institutional, operational and funding practices or policies that encourage or discourage transit ridership in general, and how they apply to non-traditional transit riders. What policies or plans could/should be developed, modified or eliminated to promote transit ridership. What constraints exist relative to service provision, funding or marketing of services?**

10. **If funding resources became available, what actions might your agency implement to promote transit ridership?**

11. **How can the Department assist operators in their efforts to increase non-traditional transit ridership? Is there a willingness to work with the Department on developing mutually beneficial operational/marketing projects?**

5.3. OBSERVATIONS AND FINDINGS FROM FOCUS GROUPS

Focus groups were approximately two hours in length, and were planned to include no more than 15 participants at any location, in order to encourage participation from each individual attending. Each focus group was facilitated by the study consulting Project Manager or the senior associate; dialogue from the participants was tape recorded, transcribed and summarized. Due to the importance of the topics proposed for discussion, and their interest to both MPOs and transit operators, the potential to access state assistance through participation in a demonstration project, and to the strategic location of the focus group sites, strong agency participation was obtained.

Detailed below is a consolidated list of findings grouped around topic areas discussed in the focus groups; for each topic area, observations and findings for common as well as divergent viewpoints are listed.

5.3.1. DO AGENCIES SEEK TO INCREASE TRANSIT RIDERSHIP?

Discussion Topic 1 focused on how agencies try to achieve ridership growth. Increasing ridership is generally a stated goal of transit agencies and of MPOs in their long-range plans. However, how this plays out operationally (i.e., are all routes and services included in this goal?) and politically (how does an elected board's constituency affect ridership goals?) differs among agencies, and over time. In addition, the relative priority of increasing transit ridership varies even within a single agency, depending on the mode, available funding and current board policy. It must also be noted that whenever transit operators speak about *ridership* they also, of necessity, speak about *service.*

Common Viewpoints

- Although there was a general agency focus on maintaining service for existing customers, most operators also stated that increasing all ridership was also a goal of their agency.
- Frustration with conflict between running existing service perfectly and expanding service to attract new riders.

- Many transit operators focus on maintaining their fleet and improving existing service to the extent they can.
- With limited resources, operators always face the dichotomy between increasing service levels and providing broad coverage for larger service areas.

Divergent or Unique Viewpoints

- Rural operators, in particular, face the choice between "social service" related transit (transit dependent and politically mandated service) and increasing service focused on commuters (choice riders, including "non-traditional" riders).
- Remote rural agencies, or agencies that serve large rural areas face the issue of "policy headways"—that is, service that is provided to remote passengers on a case-by-case basis that is difficult, politically, to reduce or eliminate; however, the service may be provided to one or two remote riders at the expense of all other riders on the bus who must deviate from their more direct route. Since these instances occur in areas where trip distance and travel times are already high, it is a serious dilemma for these transit operators, adding to operational costs, wearing out vehicles, and potentially impacting ridership.
- Increasing ridership may be a goal, but not a priority, depending on funding availability.
- Goal of increasing ridership may differ by type of service or mode; operators may want to increase ridership on more cost-effective service and modes, and reduce rider demand for more expensive service (e.g., demand-responsive service).
- In areas where there are more public transportation choices (between bus and light and heavy rail, for example) ridership competition among these modes comes into play. This was highlighted in the Bay Area.

5.3.2. How do Agencies Categorize Riders?

The definitional variations encountered in the literature review were echoed within the focus group discussions of Topic 2. That is, even though participants might all be discussing the issue of "riders"—they often define riders differently from their colleagues. For some, riders are a broadly expansive group that can include a person if he or she rode transit even once within the past year; other agencies establish more stringent thresholds at which a person is considered a rider, for example, one transit trip within the past month.

Still, any rider, no matter how infrequent, is viewed and valued as a *customer*. There was a general tone among most transit operators expressing concern for *all* customers' needs. Often, policy decisions with respect to access to service, coupled with funding and service constraints, rather than market potential, determine many of the current approaches to categorizing customers. This question revealed commonalities and some differences in the ways that division was made.

Common Viewpoints

Typical categories of riders are as follows:

- Ridership
- Current ridership: riders vs. non-riders, potential riders, or future customers
- Frequency (every day riders vs. infrequent riders)
- Mode of travel (automobile, carpool/vanpool, transit, bicycle, walking)

- Mode of public transportation (bus, light rail, heavy rail)
- Fare categories (full fare, student, elderly/handicapped)
- Time of day (peak period commuters/off peak riders)
- Trip purpose (shopping, commuting to work, school or training programs)
- Demographics
- Under-represented demographic groups
- Auto availability and middle-income: sometimes labeled "choice riders" indicating people who choose transit only if it meets their needs
- No auto availability and lower income: sometimes labeled " transit dependent riders" indicating people who have to use transit even if it does not meet their needs. Groups may be identified through the Transportation Development Act (TDA) unmet needs process:
  - Low income
  - Seniors
  - Disabled
  - Medical service customers
  - Youth: too young to qualify for driver's license
  - Students (attending school or job training)
- Niche markets
  - Students (high school, college or university)
  - Reverse commuters
  - Tourists
  - Special event riders (ball games, holiday shoppers, concerts)

Divergent or Unique Viewpoints

Although the categories listed above are typical, and often differences in wording are more semantic than real, there are divergent viewpoints hidden within common nomenclature. For example, just as there are many different definitions for transit "rider", there are also many approaches to the term "transit dependent". The most common understanding is that transit dependent people are those who cannot afford to purchase a vehicle of their own. In some areas of the state, however, people have become transit dependent "by choice". Transit's share of the market is increasing in areas with restrictive parking policies combined with adequate transit service. In these areas, a choice not to own or commute in a private vehicle makes economic and logistical sense for people of all income levels.

5.3.3. AGENCY FOCUS ON MARKETING OR PROMOTING TRANSIT

Discussion Topics 3 and 4 asked participants to identify any specific rider or non-rider categories that are the focus of marketing goals and strategies, and to describe what transit "product" is being marketed to these groups. For example, does the agency market transit "as a whole" to everybody—saying, in essence "transit is a good thing and you should try it"—no matter who you are? Does the agency focus on particular services (express routes or new service) and direct these specialized marketing efforts to specific target audiences (new residents, residents living along a light-rail line, or high school or college students)?

Common Viewpoints

Target Markets

- Many operators would like to increase focus on choice riders, or mainstream commuters, but often don't operate service to attract this group, due primarily to funding constraints.
- Most operators do focus marketing efforts on seniors, youth, summer tourism or other local seasonal populations.
- There was a general interest in tracking impact of high fuel prices that were present in May 2001, when these focus group sessions were conducted. Some operators stated it would take sometime to feel this impact in the form of increased ridership, and that they had already been receiving more inquiries about transit options. The question still remains about how to keep these new riders after fuel prices have leveled off or declined.
- Political pressure causes marketing directors to deviate from long-range strategic plans (e.g., during any given year, a vocal and organized group such as seniors may pressure politicians, so that efforts and budgets are re-directed).
- Several operators educate the public about the importance, value and utility of transit to the community in general—in part to ensure that local bond initiatives are passed when needed to support transit service. This approach can sometimes be more beneficial in the long run to the transit system than direct marketing activities.

Specific Service Marketed

- Some agencies must direct significant resources toward marketing non-productive service, because unless they demonstrate effort to market those routes, they cannot be discontinued.
- Most operators market system wide, and also try to promote new types of service (such as point deviation service).
- In their role as the long-range transportation-planning agency, MPOs have to balance the overall regional transportation mission against issues of productive and non-productive services provided by transit operators.
- Operators are sensitive to the political risk of subsidizing rail at the expense of other modes.

Promising Service and Promotional Concepts to Increase Ridership

The focus groups came up with a number of promising marketing approaches to introducing potential riders to transit as summarized below:

- Outreach to large employers to encourage transit ridership among commuting employees through fare packages and service modifications.
- Promotions targeting parents of high-school and college students (suggesting transit service could save parents' car and insurance bills).
- Promotions targeting college students (suggesting they could finish college sooner if they didn't have to work to pay for a car).
- Fall color ride (rural northern California, using bike trailer to haul bicycles).
- Susanville's free day for all people named "Susan"—historical tour of area was successful, pulling Susans from around the country.

Specific Service Marketed

- SunLink promotions (inter-city commuting)
- Specialized events marketing for weekend travel

5.3.4. Do Agencies Have a Definition for "Non-Traditional Rider," and if Not, What Further Information is Needed to Make Definition?

Under Topic 5 of the regional focus groups, the consultant team introduced the term "non-traditional transit rider" to determine how it relates to existing rider categories and labels that are applied to these groups. While transit operators do not actually use the term "nontraditional transit rider', some believed the term referred to the "choice rider," while others considered it to be "potential riders," or "*anyone who is not riding transit* in a given community."

Common Viewpoints

- Anyone who is not riding transit in a given community may be considered a "non-traditional" rider. In many cases they don't ride because the service they want or need is not available to them.
- Most systems already have the transit-dependent core customers on the bus; therefore, all new riders are choice riders.
- Many people would never consider riding transit due to extremely high expectations. However, when we think of the non-traditional transit user, we have to get to the group that's on the border—people who actually might use the bus. Who are these people?
- Transit agencies need more employer cooperation in surveying employees to determine transit needs, for such things as reverse-commute service, etc.
- Fresno Area Transit uses the term "non-traditional" rider to include someone who really has a choice, but may choose to use transit because of concern for air quality, or the health of children.
- Riders going to non-traditional jobs (24/7 schedules) could be considered non-traditional.

5.3.5. What Local or Regional Efforts are Underway to Increase Ridership Among Riders and/or Non-Riders?

Under Topic 6, transit operators touched upon the range of strategies designed to increase ridership that the consulting team found in the literature review. Examples of some promising strategies include:

- Marketing special Metrolink trains for Fontana speedway;
- SMART—San Diego Marketing Alliance for Ridesharing and Transit—agencies pool resources to buy advertising and media time—developing "one message" for region;

- Marketing to and through large employers (Fresno; strategy has not proved very effective) - problem is existing duration of service; job starts too early, leaves too late; second shift issues;
- Fresno publishes quarterly newsletter oriented toward existing customer base, keeping communications open;
- Marketing to Transportation Management Associations, with "Spare the Air" programs, e-alert before bad air quality days with offers for free ride tickets (Bay Area);
- Ridelink (information number);
- Marketing through Community College (Lake Transit);
- Summer Cruisin' Pass (Lake Transit Authority): $15 per summer, marketed through schools; prevents hitchhiking; introduces kids to the bus; sold through bike shops;
- Summer Youth Marketing (101 Fun Things To Do in Fresno): Takes advantage of excess capacity in summer;
- SunLine promotion of alternate fuels promotes support for transit in general among non-riders (they won't use the bus, but they think SunLine is doing a good job);
- Promotions at community events designed for both riders and non-riders;
- General ridesharing campaigns that include transit, specifically targeting single occupancy rider;
- Carpool, vanpool promotion;
- Special event service to (mostly) non-transit riders to City's softball team games at the stadium (RT);
- Bicycle Tourism (Lake County) uses bikes-on-buses;
- Community meetings for seniors;
- Tulare County coordination with Amtrak, focus on seniors;
- Take seniors on special recreation programs;
- Medical service trips;
- Buddy system;
- Training (for riders) focused on people with special disabilities, or those who are known to have difficulty getting around on the system;
- Training for social service providers (not for increasing ridership): Mobility training to get people off dial-a-ride onto fixed routes.

5.3.6. How Do Agencies Define Marketing Effectiveness?

While discussing Topic 7, transit operators acknowledged the difficulty and significant expense in determining if a specific strategy caused a measurable level of ridership increase, and if that increase was maintained past the active marketing phase. Because the question focused on operators' specific experience with measuring marketing effectiveness, no "common and divergent" sections are broken out in the findings below.

- There are two kinds of marketing—specific route or specific target marketing, which can be measured, and general image building or awareness generation, the effect of which is harder to measure.
- Ridership was the indicator most operators use, but they cannot generally say whether a specific marketing strategy impacted ridership, or by how much. This lack of "proof" makes it even more difficult to get funding approval from their boards for ongoing marketing efforts.

- Many operators use general awareness questions within their periodic surveys to determine name recognition, or to determine if people have heard about marketing efforts (e.g., "did you hear this ad? Are you aware of xxx?").
- Participants agreed that marketing must be monitored for effectiveness, because it is expensive and agencies must be accountable to governing boards.
- Some marketing efforts are aimed primarily at increasing public understanding of the value of transit within the community; transit provides "access and mobility" and provides a social safety net; this sort of marketing is deemed effective if (for example: local transit-related ballot measures pass).
- Some operators will advertise a promotion that requires an action on the part of the user (e.g., user must clip a coupon and insert it in the fare box to take advantage of the offer) so that the results may be measured. However, subsequent or longer-term ridership impacts are generally not tracked.
- Some operators measure effectiveness of service promotions or fare changes by the volume of phone calls placed to an information number.
- If fare and service changes are implemented separately, it is easier to determine the impact of changes on fare categories— price elasticity and sensitivity to route or service modifications.
- A "free rides for a week" program for one mid-size operator was very well utilized, but the follow up survey indicated that it was the same people riding the bus - they simply rode more often. The strategy did not attract non-riders or reduce solo trips; current riders simply shifted their trips to free ride days.
- Although some operators focus marketing efforts on people with environmental concerns, this target market does not generally switch to transit on a long-term basis - they get out for rideshare week, then return to driving their vehicle.
- When the transit agency in Lake County conducted Saturday service promotions, they learned that people like to experiment on Saturdays under non-stress conditions, and then use the service during weekdays for work trips.
- Also in Lake County, parents with children rode free on Saturday just before school starts. This Family Day appeared to increase student ridership during the school year.
- MTDB quantified the impacts of their marketing efforts on ridership and revenues in recent quarterly reports.

5.3.7. WHAT FACTORS NEED TO BE CONSIDERED IN THE DEVELOPMENT OF STRATEGIES TO INCREASE NON-TRADITIONAL TRANSIT RIDERSHIP? (Discussion Topic 8)

Common Viewpoints

Transit Service Issues

- In order to attract the choice rider, transit operators need to develop the infrastructure necessary to provide convenient transit service. This requires long term planning and coordination.
- Transit operators must respond to real issues raised in opinion surveys regarding non-riders concerns, such as:

  - "The bus doesn't go where I need to go."
  - "It is inconvenient – it doesn't run when I leave work."

  - "Service is not frequent enough (long headways)."
  - "The bus is slow."
- People require service that is accessible at home and at work, is fast, frequent, safe, and reliable.
- Travel time is one of the biggest issues: Taking transit to work may expand an eight-hour work schedule to 12 to 15 hours a day.
- A market segmentation study in San Diego indicates travel time and wait time are differentially important to riders.
- Many "transit-dependent" riders endure poor service. People without a car may have no way to attend job training because transit does not take them to their destination.

Marketing and Operator Institutional Issues

- If people want to hold bus operators to private business standards, then 10% of every budget needs to be allocated to marketing, just as in other businesses. Otherwise, it will be challenging to create a consistent marketing approach or sustain dedicated marketing staff.
- Problems are evident in competition among director-level staff, as they compete for scarce and constrained funds (for example, marketing vs. planning or operational funds).
- Public works departments often do not want to spend money on transit dependent customers or to invest before congestion worsens.
- Most marketing efforts are aimed at riders in their transit environment (on the bus, in the station, at bus stops) and will never reach non-riders. Distinct marketing efforts are required to reach non-riders.
- Transit is not considered important: It is absent from Commission agendas, agenda items are distributed without any in-depth policy-level discussion, and highway planners disparage transit's right to compete for highway dollars.
- Measure-funded projects sometimes receive negative public reaction because improvements necessitate construction-related delays or exclusions.

Land Use Issues

- Dispersed, low-density land-use patterns lead to sprawl development that increases dependence on the automobile.
- Plans are not updated frequently, so development is often based on out-dated plans.
- In many suburban areas, the design of residential community developments tends to increase dependence on the automobile.
- Transit stops often require shoppers to traverse large parking lots to get to a store or commercial area.
- In areas with no congestion, travel time is reasonable, thereby reducing the incentive to take transit.
- Free and plentiful parking, along with other hidden subsidies, provide incentives for automobile use.
- Some cities have become transit oriented, which attracts people who want to use transit and, at the same time, influences people's perception of transit.

Divergent or Unique Viewpoints

- Many people move out to rural areas for a perceived better life style, and then need expensive demand-responsive or fixed-route services as they age.

- In rural Inland Empire and northern California, elderly women become stranded when their husbands die, requiring transit/paratransit service.
- Transit operators in Palm Springs report problems accessing gated communities due to negative public perception of transit riders.
- Cities lack incentives to offer easy, convenient transit connections because they want tourists to shop and eat within the city.
- Some agencies are starting to gear up for renewing county measure funds.

5.3.8. WHAT INSTITUTIONAL, OPERATIONAL OR FUNDING POLICIES AND PRACTICES IMPACT TRANSIT RIDERSHIP (POSITIVELY OR NEGATIVELY)?

Discussion Topic 9 addresses the question of how institutional, operational and funding policies affect ridership and what policy changes are needed to promote transit use.

Common Viewpoints

Issues Internal to Transit Agencies and Operators

- Transit operators recognize that elected officials naturally devote more resources to the streets and roads priorities of the majority (approximately 98%) of rural residents who are not transit users.
- Since budgets may vary greatly each year, transit agencies tend not to develop a commitment to a long-term marketing approach.
- Many transit agencies experience a lack of coordination between planning, customer service and marketing departments.
- Boards of Supervisors are resistant to establishing needed inter-county service due to concerns that their jurisdiction would lose retail and service jobs and tax revenues.

Issues that Stem from Agency/State Relations and Policies, Including Relations with the Department

General issues related to service and spending constraints were discussed under all topics and are not repeated here. Listed below are institutional barriers described by transit operators to result from existing inter-agency relations, from state and federal policies, funding procedures and the position of transit relative to other public needs and programs:

- Operators noted that funding for marketing transit and autos is miles apart; yet there's plenty of focus on how "much" public money goes to support transit, despite its relatively low share of the pie.
- The Department's own priorities are overwhelmingly weighted in favor of highway projects designed to serve automobiles:
  - The Department is building a $51million interchange re-design near Fresno, that will address congestion that is not projected for another 20 years (yet very little money is spent on existing need for transit service).
  - The Department is widening some area streets to six lanes, creating the very environment that engenders auto dependency.
- The Department's administration of any non-highway project tends to be extremely cumbersome, despite encouragement from TEA 21 to develop various multi-modal

projects. According to transit operators, the Department's policies and procedures are very rigid and maladapted for non-highway projects, resulting in delay and wasted funding. Due to unwieldy administrative procedures, for example, it is an overwhelming burden even to put a bus stop up in the Department's right-of-way.

- The Department needs to support park-and-ride lots: They've become institutional orphans, yet maintenance, as well as improved transit access to park-and-ride lots can attract the non-traditional rider.
- Park-and-ride lots need to be coordinated with existing transit routes so that service does not deviate inefficiently. They seem to be located where the Department has excess right-of-way, not necessarily near transit stations or other park-and-ride lots.
- Operators prefer that any new money not be restricted to "capital only" or demonstration project only.
- There were requests to increase funding levels for sections 5310 and 5311 funds (Editor's note: funding levels are set at the federal level.).

Divergent or Unique Viewpoints

- According to local operators, the Department's headquarters is enforcing audit criteria that further reduce the Department District's flexibility to accommodate transit needs at the local level.
- Rural transit operators need a dedicated source of funds adequate for unmet needs and new service priorities:
  - Local jurisdictions' ability to use unspent Local Transportation Funds (LTF) on streets and roads.
  - In rural counties only, the 1/4-cent of sales tax returned to counties can be spent on streets and roads, if there are no "unmet transit needs." This situation sets up unproductive competition between small rural highway and transit departments.
- Rural transit operators have to demonstrate a significant impending emergency or lack of mobility; so only minimal needs are addressed.

5.3.9. IF ADDITIONAL FUNDING BECAME AVAILABLE, WHAT ACTIONS WOULD AGENCIES TAKE TO PROMOTE TRANSIT RIDERSHIP?

Under Topic 10, an issue raised in both rural and urban areas was the need to develop accurate and simple transit system maps, drawn to scale. The refrain was "a map should be intuitive, and not require an engineering degree to understand". It was suggested that the Department might assist in developing a map template that could be used by any operator, and would present a familiar layout to riders even if they switched transit operators or services. Related to this was the desire to provide personal assistance to familiarize riders, especially newcomers and the elderly, with the features of the system.

Common Viewpoints

- There needs to be more focus on long-range planning, working with cities and counties, and dealing with the land use issues, rather than focusing on short-term issues.
- A priority should be promotion of Bus-on-High Occupancy Vehicle (HOV) lanes and more long distance service.

- Transit operators are not looking for "demo" projects—rather, they need projects that will continue over time, to provide potential riders ongoing service over time.
- Improve park-and-ride lot signage explaining what transit service is available from that lot; improve freeway signage to indicate which express buses use the HOV lanes and which use the general-purpose lanes.

Divergent or Unique Viewpoints

Though the following suggestions are not "divergent', they do represent the viewpoints from transit operators in different, specific geographical areas - that is, an operator's service area will in part determine the "wish list" of actions that might be taken if money were available.

- Develop partnerships necessary to provide inter-county service.
- Develop inter-county service that is not paid for entirely by the originating county.
- Exploit the full potential of smart card technology to integrate fares with other types of payments, including incentives for using transit.
- First make transit work—demonstrably—on a small scale, e.g., hubs or transit core within confined service areas, then build off that success to chip away at the market "edges".
- Focus on downtown cores, serving smaller population; don't spread resources out over too large an area.

5.3.10. How Can The Department Assist Operators in Efforts to Increase Non-Traditional Ridership?

A discussion of this last topic (Topic 11) revealed, that a number of regionally based experiences between some transit operators or MPOs and the Department has, over a period of years, eroded confidence that the Department can be an effective partner in any efforts to improve the position of transit statewide. While they appreciate their local District's help in certain areas, transit operators also expressed frustration at the institutional and administrative burdens imposed by the Department.

Common Viewpoints

- The most common theme throughout all focus groups was a need for more *communication and cooperation* between the Department and transit operators, and to a lesser extent, MPOs.
- Another common theme was the general plea to the Department to provide more funding for operating buses, not just purchasing them.
- They report that programming is very difficult due to rigid funding categories: The Department needs to loosen the "color of money" for project development.
- Participants expressed general interest in working with the Department, if the program was result-oriented.
- The Department should limit administrative burden: Smaller operators cannot commit limited staff hours to administration that may be required with the Department's project.
- Participants expressed cautious optimism or guarded enthusiasm at the prospect of working with the Department to increase transit ridership.

- Request for the Department to improve coordination with localities when planning and designing a new highway or HOV lane, for example. The Department should help ensure the opportunity to include multi-modal considerations in all levels of design.
- The Department's help is needed to assist in coordination of inter-county and inter-regional services.
- Transit operators need the Department to build more support facilities for transit such as: flyovers, park-and-ride lots, HOV lanes.
- The State should take a firmer lead in establishing requirements for transit-friendly land use policies. At the very least, the state should have control over location of state-supported facilities, such as schools.
- The Department should support state funding for free transit passes for junior- and senior-high school children already on the free lunch program.
- Eliminate performance requirements like fare box recovery ratios—they get in the way of providing the optimal service in an area, and how creative an agency can be in providing new or expanded service.
- Create dedicated programs for Transportation Demand Management (TDM) and transit, with sufficient funding to allow diverse projects and diverse regions to obtain funding.
- The Department should run a school education program; take a cool, shrink-wrapped bus out to schools and teach kids how to ride the bus.
- Fund more ambassador programs (one-on-one "bus buddy" introductions to transit), especially for seniors.
- The Department could help orchestrate an interregional database that would give people access to travel options all over the state: The Department could compile a composite database, which would provide one-stop shopping that is easy for end-users to understand.
- The Department could help identify service and frequency gaps between jurisdictions.
- The Department should create a discretionary grant program to cover service gaps, lack of frequencies between counties or between service areas.
- The Department can help develop and implement web materials, such as trip itinerary planning programs, to attract choice riders or interregional information hub (phone, internet) (like 1-800-COMMUTE in Southern California).
- The Department's marketing efforts should be devoted to "umbrella" marketing programs for suburban and rural systems, and general campaign aimed at busting the negative image of transit while building community support for transit. (For example, a statewide freeway billboard program as effective as "Got Milk?")

Divergent or Unique Viewpoints

- Mid-size transit operators request that the Department not waste their time with programs that are narrowly focused so some transit operators will be excluded. For example, recently the Department indicated interest in supporting a ridesharing TDM program. The Department provided various project categories, requiring cost-effectiveness indicators and current budget allocations for each. After a year of work, The Department offered only $7 million statewide, which would be awarded on a competitive basis for HOV and park-and-ride lots. Obviously, very few sophisticated urban transit operators would have the advantage, competing for such limited funding.

- Efforts focused on relieving congestion exclude most rural operators, who have other issues related primarily to access and mobility.

5.4. CONCLUSIONS

In general, the discussions in the six regional focus groups for transit operators and MPO staff corroborated many findings from the Marketing Literature Review (Task 2). Some crucial points were amplified, however, in the face-to-face setting. First, operators expressed a basic frustration with limited and unpredictable budgets—both for service and for marketing. Second, they expressed a desire for more coordination, both between departments within transit agencies, and between agencies and the Department. Third, it became apparent that, while transit operators know a good deal about their regular customers, they need and want to know more about non-riders. Finally, transit operators do not actually use the term "non-traditional rider". Instead, operators refer to riders as customers and non-riders as potential customers.

In Chapter 7 of this report, the findings in this section have been combined with observations and findings from all study tasks in order to arrive at recommendations relative to achieving the ultimate goal of increasing "non-traditional" transit ridership.

CHAPTER 6: GIS REPORT

6.1. TASK DEFINITION AND PURPOSE

GIS is a computer-based tool for mapping and analyzing spatially related data. GIS integrates database operations with the visualization and analysis benefits of mapping. GIS presents information as layers linked by geography, enabling visualization of relationships and scenarios previously unimaginable. The GIS platform utilized for this project is ArcView 3.2 in a personal computing environment, which enables broad accessibility.

The original RFP required that the selected consultant have the capability of developing the data collected during the study in a geographic information system (GIS) format. One of the original objectives was to create an analytical tool for transit operators to use in the design of new routes, stations, and service concepts, as well as restructuring of existing routes. The GIS would enable transit operators to identify high demand corridors by displaying the geographic location of transit routes in relation to current population, housing, and employment data. As the study progressed, the Department and the consulting team reexamined the objectives relative to development of GIS information. Investigation proved that it was not feasible to develop a tool to conduct route/station location analysis due to sample size and data availability, such as the lack of current transit route data available in GIS. However, this important application should be undertaken in the future in partnership with local transit operators and regional planning agencies, as noted in the final recommendations.

Despite these limitations, the consulting team created a framework for future GIS applications related to increasing transit ridership in California. The team developed a methodology for use of GIS as a tool to assist in identifying the geographical locations with the best potential to attract regular transit riders (Regulars), occasional transit riders (Occasionals), and new transit recruits (Recruits). Using an indicators-based methodology, planners and transit operators can identify market potential in terms of travel behavior, relevant perceptions, and demographic characteristics of the identified groups. This analytical and interpretive technique is a social science application of GIS rather than a conventional engineering use of the technology, such as for inventorying facilities. Using GIS on this project, the Department obtains a customized tool to visualize and analyze the results of the telephone survey and transit operator survey, increasing the potential for distribution and analysis of the study results in the future.

The selected indicators were derived from 1990 U.S. Census data that was correlated to the results of the telephone survey described in previous chapters. The selected indicators include demographic characteristics of survey respondents who indicated they are likely to begin using transit, or increase their use of transit in the future. It includes respondents in each group, including Regulars, Occasionals, and Recruits. While this is a logical approach, it does not necessarily include all the variables related to the complex decision-making process leading to choice of transportation mode. The transit research literature identifies various factors that influence mode choice including land use decisions (population density and mixed use), components of the transportation system (access to transit and parking availability), and lifestyle decisions (decisions to have children, what schools they attend). The results of the telephone survey indicate that access to transit at both origin and destination is one factor that distinguishes many regulars from recruits, for example. Recruits who reported they were likely to increase use of transit tended to travel within a downtown urban center, such as San Francisco, where the transit infrastructure is in place and shortage of parking may be a determining factor. Naturally,

the significance of the factors will vary from region to region. Consequently, it would be worthwhile for one to carefully evaluate the indicators to be selected in subsequent analyses.

Conceptually, this approach provides information that is based on commuters' perceptions of the existing transit system. The data should be useful to transit operators at this point in time, prior to developing any service or operational improvements to attract new riders. What this study ultimately recommends, however, is that transit agencies identify customer-oriented service concepts and operational improvements to expand the number of travelers who view public transportation as a viable alternative because it meets their travel needs and expectations. When implemented, the transit improvements would constitute an intervention that in effect changes the attitudes and perceptions of the traveling public, thereby increasing the number of future transit riders.

It was agreed that the consultant's effort would be focused on developing the methodology and delivering the GIS results in a digital format as initially required by the RFP. No printed maps are included in Civic technologies interim or final products. Rather the final product is a CD-ROM with the ArcView Project files, data, and a data dictionary/metadata. Please refer to the digital GIS, as available, when reviewing the information presented in this chapter.

6.2. METHODOLOGICAL APPROACH

Based upon the project objectives set forth above, the Consultant organized the methodology into the following three components:

- Data collection and GIS output
- Translating the telephone survey results in GIS and developing and applying indicators of potential increase in transit use
- Translating the transit operators' survey results in the GIS

6.2.1. DATA COLLECTION AND GIS OUTPUT

The Consultant reviewed and collected data and metadata from a variety of sources, including the statewide telephone survey and the transit operators' survey. In addition, the Department provided the following:

- California 1990 U.S. Census STF 3 data;
- USGS National Land Coverage Data; and
- the GDT Streetbase and boundary files

The consultant team also investigated the possibility of using U.S. Census Transportation Planning Package (CTPP) data, but decided this data did not add significant value beyond the other sources.

For this project, the Consultant did not develop a database per se, but only prepared ArcView shape files as the final GIS output, and the data dictionary/metadata.

6.2.2. TRANSLATING THE TELEPHONE SURVEY AND TRANSIT OPERATORS SURVEY INTO GIS

The telephone survey results were geocoded by county in order to correlate respondents' travel behavior, perceptions, and demographic characteristics with their geographic location. Generally, geocoding is a process in which tabular data is given real-world mapping coordinates (latitude and longitude). Transit operator survey results were geocoded by headquarter zip code and linked to the county and RTPA boundaries, because service area boundaries were not available for transit operators.

Fairfax Research provided the raw data from the telephone survey for all 70 questions with multiple-choice answers in tabular format. Code descriptions for the data are provided in a document called the "GIS Non-Traditional Rider Code Book". Multiple choice answers for any given question ranged from two to 35 resulting in over 500 total possible responses.

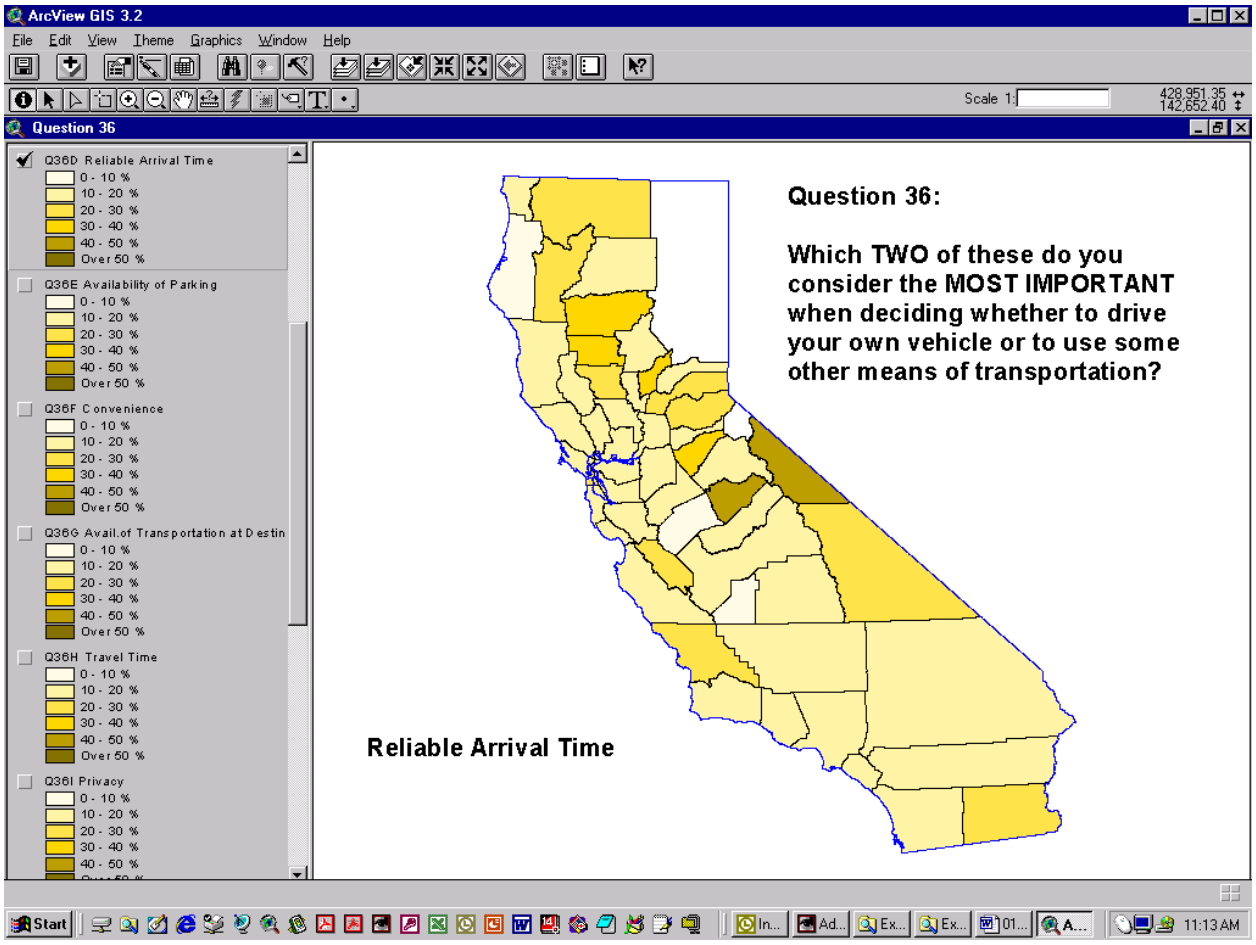
The consultant team converted the raw telephone survey data into a dbase format (for further details see Appendix E).

Due to the small sample size of 3,302 statewide, care must be taken in making general conclusions about travel behavior, perception, and demographic characteristics at the county level, particularly for questions that received very few responses. Findings should be validated through further investigation at the local or regional level prior to development and implementation of service improvements or marketing plans.

An example of the GIS application to the telephone survey results is shown in Figure 6-1, Reliable Arrival Time. Corresponding to question 36D of the telephone survey, Figure 6-1 displays the percentage of survey respondents claiming reliable arrival time as one of the most important factors in mode choice. The lightest areas represent the lowest percentages, and the darkest areas represent the highest percentages. This map reveals that between 40% and 50% of survey respondents in Mono and Mariposa counties consider reliable arrival time an important factor in choosing their mode of transportation. As a cautionary note, the percentage of responses should be compared to the number of responses since a large percentage may actually represent a small number of responses.

Maps such as Figure 6-1 are available for all telephone survey questions as described above.

Figure 6-1: Reliable Arrival Time



6.2.3. GIS INDICATORS ANALYSIS

Based on the telephone survey results and the market analysis, the consultant team developed a series of demographic profiles of people more likely to increase their transit use. The objective of the GIS analysis was to map the presence of these indicators statewide using 1990 Census data by census tract. The methodology utilized follows.

Table 6-1 provides a list of indicators correlated to 1990 census data:

Table 6-1: List of Indicators Correlated to 1990 Census Data

Indicators of Potential Increase in Transit Use	1990 Census Table	Fields Used in GIS Analysis
Current transit users commuting to work	Means of transportation to work (by workers 16 years and over) P49	Bus or trolley bus, railroad, streetcar or trolley car, subway or elevated
Spanish-dominant Hispanic households	Language spoke at home and ability to speak English (by persons 5 years and over) P28	Speak Spanish, speak English "not well" or "not at all"
Households with four or more residents	Persons in household (by household) P16	Households with 4 persons and over
Households with one or no car	Tenure by vehicles available (by occupied housing units) H37	Number of vehicles available equals 0 or 1 in owner occupied or renter occupied housing units
High school degree or less	Educational attainment (by persons 18 years and over) P60	Less than 9^{th} grade, 9^{th} to 12^{th} grade (no diploma), high school graduate (includes equivalency)
Private household occupations (small sample size); service occupations except private and household; handlers, equipment cleaners, helpers, and laborers (small sample size); machine operators, assemblers, and inspectors (small sample size)	Occupation (by Employed persons 16 years and over) P78	Categories of occupations as specified.
Live in a multiple unit complex like an apartment or condominium (primarily renters)	Tenure by units in structure (by occupied housing units) H22	10 or more units in structure in owner occupied or renter occupied housing units
Asian Americans, Indians or Pacific Islanders, Black/African Americans, Hispanic/Latino Americans, and Native Americans	Hispanic origin by race (by persons) P12	Categories of races as specified both Hispanic and non-Hispanic
Ages 25 to 34 and 70 or more years	Age (by persons) P13	Age categories as specified
Income less than $30,000	Household income in 1989 (by households) P80	Income categories from less than $30,000

A number of indicators could not be correlated to the census including:

- Households with more licensed drivers than vehicles
- Households with three or more children under age 16
- Those who already use transit at least three days per week
- Those more familiar with transit schedules, fares, and routes
- Those with self-classified "convenient access" to transit at home and at work

- Although all riders have a potential increase capacity, doesn't the greatest increase potential exist beyond the scope of these indicators?
- These indicators are common to the "traditional" transit rider, not the "non-traditional" transit rider.

Each indicator was mapped in GIS by census tract as a percentage of total population or total households. Percentages were used in order to normalize data between high population and low population census tracts.
In order to obtain a statewide average of all indicators, the percentages of the individual indicators were summed, and their average calculated. The result was mapped as an average percent of the total indicators.

6.3. GIS RESULTS

Indicators of likely transit use were applied to 1990 United States Census Bureau data, and analysis using GIS yielded results set forth in the following two categories:

- Travel behavior
- Demographics

6.3.1. TRAVEL BEHAVIOR

Travel behavior indicators of likely transit use include current transit users and auto ownership.

Current Transit Users

In the State of California, the overwhelming majority (approximately 95%) of all census tracts have 25% or less of their total population currently using transit. The highest percentage is found in one census tract in the City of Oakland. The remaining census tracts, which comprise less than 5% of census tracts statewide, have between 25% and 75% of their total population currently using transit and are located in the following cities:

Alameda	Brisbane	Carlsbad	Daly City	El Cerrito
Emeryville	Fresno	Huntington Park	Los Angeles	
Oakland	Richmond	Sacramento	San Diego	San Francisco
San Pablo	Vernon			

Households with One or No Car

Approximately half of all census tracts statewide have between 25% and 50% of their households with either one or no vehicles available. And one third of census tracts throughout California have more than half of their households either autoless or with only one car. This is the case in at least one census tract in every county in the state except in:

Alpine	Amador	Calaveras	Del Norte	Lassen
Modoc	Mono	Plumas		

6.3.2. DEMOGRAPHICS

Demographic indicators are organized into the following four subcategories:

- Economics

- Age
- Cultural
- Dwelling

Economics

Economic indicators of likely transit use include educational attainment, occupation, and income level.

Adults with a High School Diploma or Less

In over 40% of the census tracts statewide, more than half of all adults do not have a college degree or a high school diploma. This is true for at least one census tract in every county in the state. In another 40% of census tracts, between one quarter and one half of all adults fall into the same category. In the remaining census tracts, 25% or less of all adults have earned only a high school diploma or less.

Low Skilled Workers

Only 2% of all census tracts statewide have more than half of their workers in such low skilled occupations as:

5) Private household
6) Service (except protective and household)
7) Handling
8) Equipment Cleaning
9) Helping
10) Laboring
11) Machine Operating
12) Assembling
13) Inspecting

These tracts are located in the following counties:

Alameda Contra Costa El Dorado Fresno Los Angeles Monterey Orange Sacramento San Diego San Francisco San Luis Obispo Santa Clara Solano Sonoma Stanislaus Yolo

Of these, only three tracts statewide (one each in NW Contra Costa County, City of Oakland, and City of Fresno) have over three quarters low skilled workers. Three quarters of all census tracts in California have 25% or less low skilled workers. Approximately one quarter of all census tracts have between 25% and 50% low skilled workers.

Households with Income Less Than $30,000 Per Year

In approximately 30% of California's census tracts, over half of all households are low income. This is the case in at least one census tract in every county in the state. In half of all census tracts, between 25% and 50% of households are low income. In the remaining census tracts, less than 25% of all households are low income.

Age

Telephone survey results show that likely transit users are persons 25 to 34 years old, and 70 or more years of age. In over 99% of all census tracts, less than half of the population is within the target age. In 32 census tracts across the state, over half the population is within the target age. These census tracts are located in the following cities:

Atascadero, Beverly Hills, California City, Concord, Fresno, Lafayette, Laguna Beach, Laguna Hills, Long Beach, Los Angeles, Modesto, Norco, Perris, Poway, Sacramento, San Diego, San Francisco, Santa Clara, Seal Beach, Signal Hill, Soledad, Walnut Creek

Cultural

Cultural indicators of likely transit use include Spanish speaking households, and race/ancestral heritage.

Spanish Speaking Households

In approximately 95% of census tracts, less than one quarter of households are Spanish speaking. Over half of all households are Spanish speaking in census tracts located in the following cities:

Avenal, Bell, Cerritos, Huntington Park, Huron, Industry, La Quinta, Los Angeles, Maywood, Norwalk, Santa Ana, Santa Fe Springs, Vernon

The highest percentage (over 75%) of Spanish speaking households is found in one census tract in the City of Santa Fe Springs.

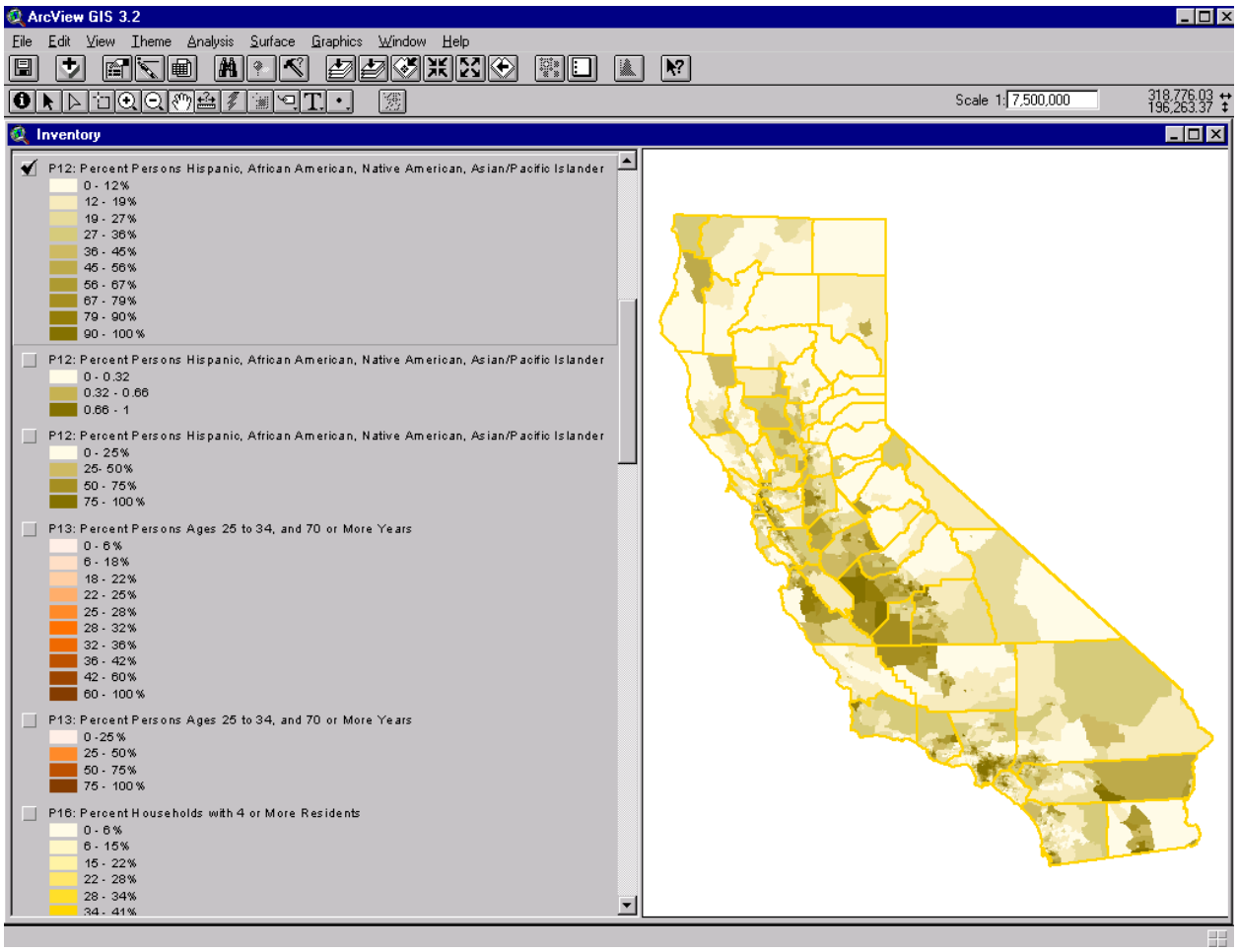
Persons Hispanic or Latino American; Asian American, Indian or Pacific Islander; African American; or Native American

As depicted in Figure 6-2, Persons Hispanic or Latino American; Asian American, Indian or Pacific Islander; African American; or Native American, ethnic minorities comprise over half the population in one third of census tracts. This is true for at least one census tract in every county in the state except:

Alpine, Amador, Butte, Colusa, Glenn, Inyo, Lake, Mendocino, Modoc, Mono, Nevada, Placer, Plumas, Shasta, Sierra, Sutter, Tehama, Yuba

In another third of census tracts, ethnic minorities constitute between 25% and 50% of that population. Of the remaining census tracts, the population contains less than 25% ethnic minorities.

Figure 6-2: Persons Hispanic or Latino American; Asian American, Indian or Pacific Islander; African American; or Native American



Dwelling

Dwelling indicators include people in living conditions most likely to increase transit use. For the purpose of this analysis, a large household has four or more residents; and a multi-unit complex has ten or more dwelling units.

Households with Four or More Residents

In close to 10% of census tracts, more than half of all households are large. These census tracts are located in the following counties:

Alameda Contra Costa Fresno Imperial Kern Kings
Los Angeles Madera Marin Mariposa Merced
Monterey Napa Orange Riverside Sacramento San Benito
San Bernardino San Diego San Francisco San Joaquin
San Luis Obispo San Mateo Santa Barbara Santa Clara Santa Cruz
Solano Sonoma Stanislaus Tulare Ventura

Additionally, in more than half of all census tracts, between 25% and 50% of all households are large. In the remaining census tracts, household size is predominantly smaller.

Persons Living in a Multi-Unit Complex

In 95% of census tracts throughout California, less than 5% of housing is in multi-unit complexes. Multi-unit complexes comprise more than one quarter of all housing in census tracts located in the following cities:

Beverly Hills Coronado Culver City Emeryville Foster City Long Beach Los Angeles Oakland Redwood City San Bruno San Diego San Francisco Seal Beach West Hollywood

In one tract in the City of Coronado, over 75% of housing is in multi-unit complexes.

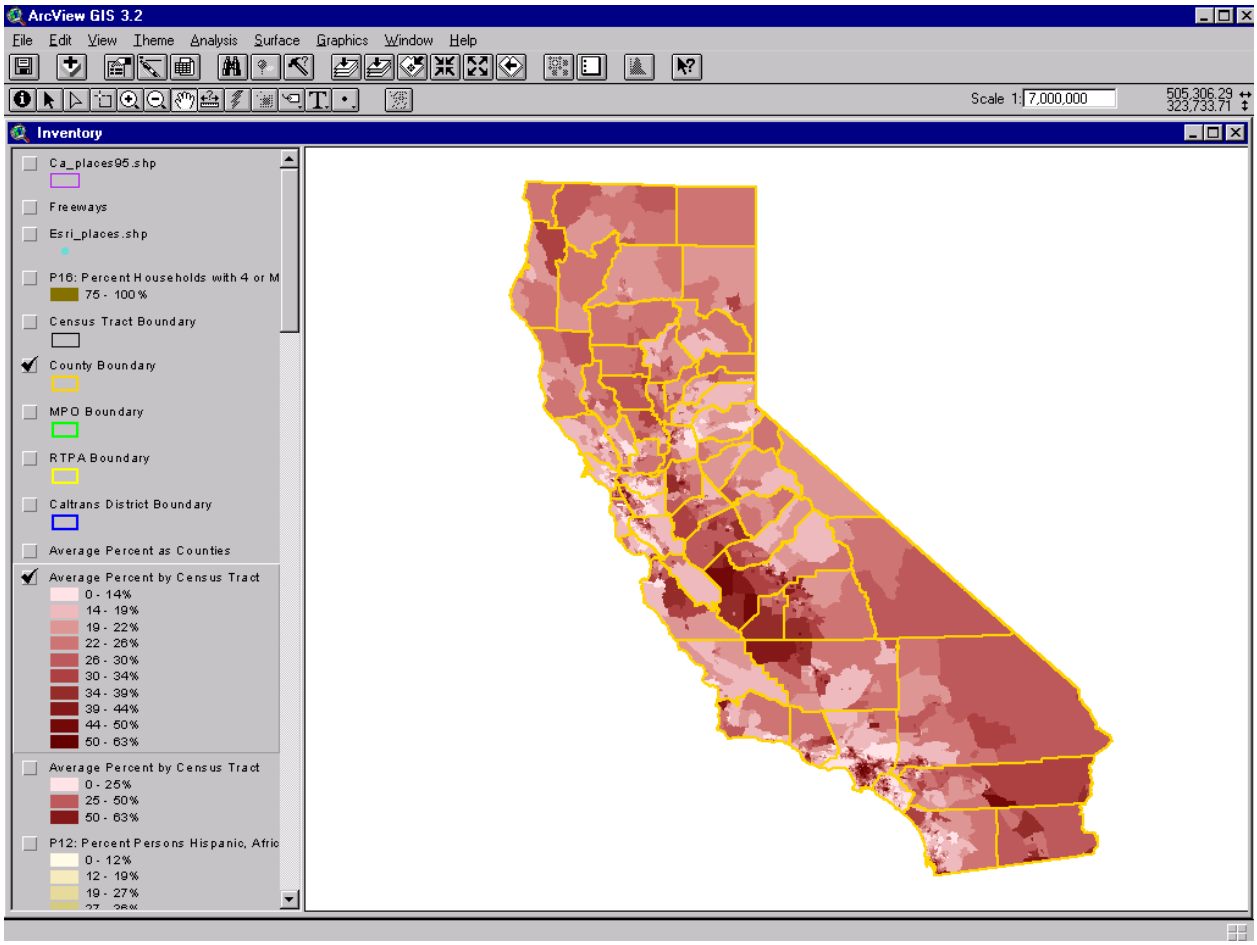
6.3.3. Average Percent of Total Indicators

In order to determine the locations with the highest likelihood of increasing transit use, a statewide average of all indicators was obtained. The resulting average yielded the following results.

As depicted in Figure 6-3, Average Percent of Total Indicators, the highest percentages (50% to 63%) of persons or households most likely to increase transit use are found in census tracts within the following cities:

These census tracts comprise only 5% of all census tracts statewide. Of the remaining census tracts, 43% have a moderate share of likely transit users (25% to 50%). Over half of all census tracts have 25% or fewer likely transit users.

Figure 6-3: Average Percent of Total Indicators



6.4. CONCLUSIONS

6.4.1. GIS VISION

The primary objective to identify the geography of potential riders (Regulars, Occasionals, and Recruits) based upon quantifiable indicators has been achieved. However, this project represents only a start in the use of GIS to support the Department's objectives to develop transit programs and policies aimed at increasing ridership. Planning for the future use of GIS to achieve the agency's objectives should include a vision for the use and application of GIS. This vision should encompass, at least, the following components:

- Development of a comprehensive GIS-based knowledge management solution that includes an enterprise-wide GIS distribution to non-experts and the development of applications for use by policy, programming, and planning staff.
- Position the Department as a statewide transit data repository.
- Position the Department as a leader in the innovative use of GIS for statewide transit planning, policy development, and resource allocation applications.

- Position the Department as a leader in the use of GIS for the distribution and sharing of important transit information statewide through the use of Internet-based GIS services.
- Assist the Department in developing innovative GIS applications including moving from the use of GIS as an engineering-based application to GIS as a social sciences based application.
- Assist the Department's move from GIS used exclusively by expert technicians to use by a broad base of non-GIS experts in their daily work endeavors such as policy development, analysis, and planning.
- Establish measurable GIS performance goals and objectives.
- Funding commitments to develop and maintain GIS based upon meeting performance goals and objectives.

6.4.2. RECOMMENDATIONS FOR FUTURE USE OF GIS

Three categories of GIS-related recommendations have been developed, as follows:

- Database Development Recommendations
- Indicators Analysis Recommendations
- Policy Integration Recommendations

The consulting team offers the following recommendations, which are designed to create a GIS vision to support the Department's transit policies and programs, recommendations for future GIS use, and potential GIS-based projects.

Database Development Recommendations

The following are recommendations for expanding the GIS database:

- Increase the telephone survey sample size so that variations across the state can be better understood and analyzed.
- Broaden the database to draw upon and correlate information from other state departments such as the Employment Development Department, Housing and Community Development, Health Services, and the Office of Research and Planning, among others.
- Develop a database organization and administrative rules to accommodate new information.
- Place the Department transit GIS within the statewide GIS integration project now underway.
- Develop a program of systematic data updates including Census 2000 SF 3 data as well as a program for regular data updates as the transit database grows to encompass other data sources.

Indicators Analysis Recommendations

The following are recommendations for improving the indicators analysis:

- Develop an enhanced indicators based methodology that supports a "lifestyle" marketing approach. The lifestyle marketing approach in the transit realm identifies potential users based upon a sophisticated profiling methodology as exemplified by use of the Metropolitan Transit Development Board in San Diego.

- Develop an enhanced methodology for undertaking the indicator analysis including the use of statistical modeling such as CART ("Classification and Regression Trees") as described in Breiman, et al. (1984), "Classification And Regression Trees," Wadsworth and Brooks/Cole, CA. CART is a multivariate analysis tool that enables analysis of large volumes of data collected during a research enterprise by selecting salient features of variable interest, discarding background noise, and providing an understandable and rapid summary of the contained information.
- Apply the indicators analysis at a finer grain such as the census block or block group level rather than the census tract. This will result in a better resolution for data interpretation and provide more value and utility to transit operators at the local scale.
- Areas with higher indicators should be further investigated and analyzed including with local transit operators data.
- Analysis should be undertaken at the county or MPO scale rather than on a statewide basis. Normalizing and ranking results within each county or MPO will result in a more accurate set of indicators of local conditions. This will also enable the results to be more readily acceptable to local transit operators.
- Transit operator service area boundaries should be geocoded to better understand the relationships to census tract results and other data.

Policy Integration Recommendations

GIS applications should be developed to assist the Department staff make better informed policy, planning, and resource allocation applications including:

- Transit service integration: Develop GIS tools to assist in a statewide program to better link transit services to user demand.
- Operations: Develop GIS tools to assist local transit operators improve access to transit facilities such as bus stops and rail stations.
- Marketing: Develop GIS tools to assist in analyzing local area populations.
- Jobs/housing balance: Develop GIS tools to assist MPO's and COG's undertake jobs/housing balance. Jobs/housing balance is gaining increased importance as a regional policy mechanism to reduce travel demand.
- Economic development: Develop GIS tools that utilize EDD labor market and other data, and information from Cal Trade and Commerce to better understand statewide economic development trends that influence travel demand.
- Land use integration and real estate joint development: Develop GIS tools to assist MPO's, counties, and cities better plan for transit corridors that strategically leverage public transit infrastructure investments with private sector real estate investments. GIS tools can assist local agencies analyze joint development opportunities on underutilized real estate assets to increase ridership, livability in the local community, and revenue to the local agency.

6.4.3. POTENTIAL GIS-BASED PROJECTS

As a direct result of the foregoing recommendations, we have identified four (4) possible GIS-based research projects for the Department to consider undertaking as part of a GIS vision for use in developing Regular, Occasional, and Recruit transit riders profiles. The first three projects set forth below can be undertaken independently in any sequence but are designed to build upon each other without funding redundancy. The fourth project can stand-alone or be integrated with the other three as part of the overall GIS vision. These research-related projects are summarized in the recommendations section of this report.

CHAPTER 7: STUDY FINDINGS AND RECOMMENDATIONS

In this chapter, the findings from previous sections of this report will be compared to provide a three-dimensional picture of transit's potential to increase mobility options for Californians. Primary goals of this section are:

- To compare observations and findings from different study tasks and determine where they converge and where they differ.
- To draw a series of recommendations for projects, based on observations and findings.

7.1. WHAT WOULD ENCOURAGE GREATER TRANSIT RIDERSHIP IN THE TARGET MARKET?

7.1.1. COMPARING FINDINGS OF STATEWIDE TELEPHONE SURVEY AND PREVIOUS SURVEY RESEARCH

The literature review indicated that most transit research is based on consumer satisfaction surveys of current riders, due to the convenience and low cost of on-board surveys compared to household surveys of the general population. As a result, transit operators know a great deal more about the characteristics of riders than non-riders. Data collected on current riders indicates they tend to have limited access to a private automobile and lower income than average. Using this data, transit operators tend to design service and operations for existing riders, rather than developing service concepts that would appeal to potential riders.

In more recent years, some transit agencies have identified a second target market – commuters who typically travel from a suburban residential area to a high-density urban employment center. Demographic data indicates that a large segment of this market has access to an automobile, but has chosen to use public transportation. By understanding why these riders choose transit, agencies can design service concepts to attract a large number of potential riders to transit.

Recently, some transit agencies with greater marketing resources have developed more sophisticated approaches to understanding the attitudes and perceptions of potential rider market(s). Over the last several years, they have developed household surveys that explore the attitudes of non-riders toward transit, generally approaching the subject in one of two ways:

- Non-riders are asked to provide their own reason(s) for not using transit.
- Non-riders are probed to determine the types and magnitude of service improvement or changes required to entice them onto transit.

The statewide household survey conducted in this study incorporated these questions to help us understand the motivations of potential transit riders. The consulting team designed the telephone survey to identify characteristics of riders and non-riders, travelers' needs and expectations, as

well as perceptions of how well public transportation could meet these needs. It also serves to verify and update information from previous surveys of potential riders.

Table 7-1, *Comparison of Attributes of Various "Potential Rider" Categories,* below, presents key findings from the statewide telephone survey conducted as a part of this study, and a compilation of previous survey research. Because no two studies use the same questions or classify answers or respondents in the same way, this table is provided to illustrate the general agreement of survey research conducted in different regions throughout the state, and the comparable findings of the statewide telephone survey. The data from all surveys have shown that relative to using transit, *the needs and preferences of current transit riders are almost indistinguishable from those who do not ride transit*.

TABLE 7-1: Comparison of Attributes of Various "Potential Rider" Categories

Category of Data	*2001 Statewide Survey N= 3,302*	*Previous Studies (Surveys Reviewed for Transit Literature Review & Analysis)*
Perceptions of transit and attitudes toward transit.	• **Frequent riders rate public transportation higher than non-riders or occasional riders for all service attributes probed (flexibility, frequency, cleanliness, trip time, convenience, cost and reliability** • **Attitudes of occasional riders (less than 4 x per week) are more favorable than non-riders, but less favorable than riders, toward transit service attributes.**	• **The "potential riders" are less likely to agree that the bus is a "social service for low-income people."** • **More likely than riders and especially non-riders, to consider themselves comfortable with others on the bus.** • **Just as likely as riders to consider the service as being very good in overall convenience.** • **More likely than riders to feel that bus routes they would use are direct and without need to transfer.** • **Less likely than riders to feel a high degree of personal safety while waiting for the bus.** • **Less likely to feel operational aspects of service are very good, including proximity of the bus stop, frequency of service and duration of trip.** • **More likely to feel that traffic and parking are a problem.** • **More likely to think it's financially worthwhile taking the bus, even while owning a car.** • **Positive perception of transit most strongly correlated to friendliness and courtesy of drivers, knowledge and helpfulness of staff, ease of making transfers, trip time, length of service day, safety and reliability of bus.**
What is important to attract potential market?	• **Reliable arrival time** • **Convenience** • **Safety** • **Flexibility** • **Cost of driving** • **Cost and availability of parking** • **Availability of transportation at destination point** • **Appearance and cleanliness of busses**	• **Reliability** • **Convenience** • **Comfort** • **Driver friendliness and courtesy** • **Frequency** • **Trip times** • **Cleanliness of bus and transit stops**
What would attract potential riders?	• **More express service** • **Fewer transfers** • **On-time service** • **Convenient access**	• **Provide value perceived to equal the utility of the car** • **On-time service** • **Convenient access to transit at home and work** • **Increased frequency** • **More direct routes**
What would retain existing riders?	**N/A**	• **Adjust bus fares** • **On-time service** • **Better route availability and service hours** • **Improve bus speeds** • **More benches or shelters at bus stops** • **Demonstrate concern for customers** • **Longer hours**
Why don't they use transit now?	• **Lack of direct/ convenient routes** • **Stations/stops too far away** • **Trip times too long** • **No flexibility** • **No service available at all** • **Need car for or during work**	• **Public transportation takes too long** • **Don't need it/prefer to drive** • **Need a car during the day** • **Service not available where customer needs to go** • **Schedule not convenient** • **Don't feel safe at bus stops, or on board bus (minor factor)**

What Would it Take to Retain Existing Riders?

Clearly, maintaining the current rider base is critical to achievement of transit ridership objectives. Recently, Omnitrans in San Bernardino County in Southern California, conducted a survey which included questions designed to determine what would keep existing riders on transit. The survey showed that 61% of current riders who were likely to quit riding Omnitrans said there was nothing the transit agency could do to keep them as riders (Attitude & Awareness Study, Rider Survey 2000 Final Report, p. 2). The remaining 39% of these potential "ex-riders" indicated that they could be retained as riders if Omnitrans were to take actions related to service improvements including the following:

- Adjust bus fares.
- Provide on-time service.
- Improve bus speeds.
- Improve route availability and service hours
- Provide more benches and shelters at bus stops.
- Show concern for rider issues.

The Omnitrans survey echoes the results of many other surveys conducted by transit agencies statewide. Of particular note is the finding that the transit agency should "demonstrate concern for rider issues". This finding suggests that transit operator efforts to improve service have not been sufficient to encourage increased transit use. This may also be a sign that although transit operators are "asking", they may not be "listening".

Retention of existing riders is an important strategy to increase total ridership and market share over time. Making service improvements designed to *turn transit dependent riders into riders choosing transit as a viable option,* can result in increased ridership across all categories. For this to occur, *transit operators must proactively make improvements and enhancements to existing service in direct response to rider preferences*.

What Will it Take to Attract Potential Riders?

It is generally understood that there is a group of "staunch non-riders" who will never ride transit, under any circumstances. Estimates of the extent of this group in the non-rider population vary, but may be as high as 40% in some areas. (The statewide telephone survey indicated that approximately 45% of all commuters were strongly resistant even to considering use of public transportation.).

Review of a variety of transit agency surveys reveals that non-riders consistently indicate that they want the same travel benefits as transit riders: Reliability, convenience, safety and comfort. If this is the case, why do the majority of non-riders choose not to use transit? Two factors distinguish non-riders from riders:

- Non-riders' expectations for each service category are higher.
- Non-riders are less likely to commit to using transit, *even if those higher expectations are met.*

Omnitrans surveyed non-riders to determine which of several specific service improvements would encourage the respondents to ride Omnitrans "regularly". Approximately 15% of non-riders would ride "regularly" *if routes were closer to home, if buses ran more often, and if service*

were faster or more direct. A substantial number of respondents, 29%, claimed they would ride more often *if the bus were on time.* These are people who also most frequently ranked "reliability" as their most important concern.

Transit operators can respond by developing a plan of action(s) to identify, characterize and locate potential riders from this non-rider group: *Identify travel needs and preferences and use these insights to shape the development of service concepts and marketing strategies.*

Why Don't People Ride Transit Now?

The primary reason people choose not to use transit is that it does not serve their specific travel needs. One or more of the following deterrents exist for the potential user:

- Current routes do not serve the needed destinations: Transit stops are not convenient to the home or workplace.
- Trips take too long and typically require at least one transfer.
- Transit does not run frequently enough to be compatible with travel schedules.
- Transit does not operate early or late enough.
- Transit lacks flexibility: Riders typically cannot run errands or make other necessary trips (e.g. childcare pick-ups and drop-offs).
- Perception of unsafe operating environment (e.g. lack of transit security in and around transit facilities and stops).
- People have limited or no familiarity with service that is available or how to access service.

These service-related issues are at the heart of why people do not or *cannot* choose transit as a travel option. To attract non-riders who have access to a private vehicle, transit service needs to be comparable to the automobile. As a result, agencies should evaluate and improve services based on customer needs before initiating marketing strategies for this target market.

One of the greatest challenges for transit operators will be to effectively employ market-driven service policies and approaches, within already established transit-operating environments. *Prior to implementing market-based service improvements*, *operators need to undertake thorough investigation, planning and analysis to determine the potential impacts on current riders and the overall system.* Given the funding constraints for operating new services, operators could identify service improvements and efficiencies within their existing system, including restructuring routes and diversifying types of service (increasing express buses, rapid bus services, etc.).

Implications of Increased Transit Use

It is important to mention that if 7.8% of the respondents who reported they are likely to increase their use of public transit suddenly chose to do so, these new trips would overwhelm the existing transit system. System capacity is currently insufficient to accommodate this projected level of new ridership. While not all of these respondents would actually increase their usage, even a fraction of these people increasing their use of transit would represent a substantial increase in ridership. Therefore, transit operators need to carefully plan and analyze the potential system impacts prior to implementing proposed service improvements.

7.2. CHARACTERISTICS OF THE TARGET MARKET

Based upon the survey data, the consulting team classified commuters as heavy transit users, less frequent riders, and non-riders and developed profiles to describe the general characteristics of each group.

- *Heavy transit users* are defined as those who use transit 4 or more days a week. They have convenient access to transit near home and work. Many heavy transit users live in the Bay Area, where there is good access to transit and multi-modal service options. Their commute patterns coincide with existing transit routes, either within downtown areas or from suburbs to downtown. They live in households in which there are fewer licensed drivers and fewer vehicles available to make trips. Heavy users tend to be young, single, and never married. There are a greater number of Hispanics and African Americans in this group as compared to non-riders.

- *Less Frequent Riders* are defined as those who use transit 3 or fewer days a week. Like heavy users, this group has convenient access to public transportation near home and work; however, their commutes are more similar to the suburban commute patterns of non-riders. Less frequent riders offer the same reasons as non-riders for not using public transit more frequently: Access, speed (travel time) and convenience. They do not consider public transit as safe or flexible as heavy users, reporting a need to use their private automobile during the day. They rate transit lower relative to frequency of service and travel time, as well. This group of riders is ethnically diverse and riders in this group are likely to be single and average age and educational levels.

- *Non-Riders* do not use transit due to access, convenience, flexibility, and control issues. They are less likely to live near convenient public transportation and more likely to have access to private vehicles than heavy users. They report that transit travel time is unreasonable, and service is inflexible and inconvenient. They also report that they have little or no affinity with transit users. Compared to heavy users or less frequent riders, non-riders are more likely to be married, homeowners, more affluent, well educated, and work at professional or white-collar jobs.

Strategies to increase ridership may include recruiting new riders, as well as encouraging more frequent use among current riders. Results of the household telephone survey indicate that 7.8 per cent of respondents are very likely to increase their use of transit in the future. Analysis further indicates that this group consists of commuters in each of the three groups profiled above. The consultant team therefore identified three potential target markets to be: *Regulars* (heavy user, very likely to increase ridership), *Occasionals* (infrequent riders, very likely to increase ridership), and *Recruits* (non-riders, but very likely to start using transit).

These profiles provide preliminary information that should be further explored through additional regional survey efforts, incorporating GIS whenever possible. Transit operators should try to further characterize these groups and subgroups through origin and destination studies and market segmentation research. The following section describes the various elements that transit operators should consider as they identify potential transit riders.

7.2.1. WHERE IS THE TARGET MARKET LOCATED IN THE STATE?

Geographical Variation

Target markets defined earlier as Recruits, Occasionals and Regulars reported in the survey that they were likely to either increase or start using transit in the future. Further analysis reveals they are located in areas of the state with denser populations and a downtown core. These areas currently represent the most promising locations for increasing transit ridership because people have access to an existing infrastructure, choice of transit modes, and significant level of service. As a result, respondents commuting within downtown rate transit higher on their most important mode choice criteria - flexibility, convenience, and punctuality - compared to respondents making rural or suburban commutes.

The statewide telephone survey indicates that the following areas contain the highest proportion of Recruits, Occasionals, and Regulars: San Francisco (19.6%), Contra Costa County (12.4%), Alameda County (11.3%), Sacramento (11.0%), and Los Angeles (9.3%) (these conclusions should be used with caution due to the small sample size.).

Although we can locate components of a target market, the specific identity and residence remains unknown. At this point, the GIS tool can help to further locate these potential rider groups, and identify their key characteristics.

In order to identify the locations with the best potential for recruiting Regulars, Occasionals, and Recruits, the consulting team utilized an indicators-based methodology to identify market potential in terms of travel behavior, relevant perceptions, and demographic characteristics. The indicators were derived from 1990 U.S. Census data that was correlated to the results of the telephone survey described in Chapter III. The use of GIS allowed consultants to visualize and analyze the results of the telephone and transit operator surveys, in order to determine the geographic locations with the highest likelihood of increasing transit use.

The statewide average of all such indicators reveal that the highest percentages (50% to 63%) of persons or households most likely to increase transit use are found in census tracts within 15 cities in Northern and Southern California. The census tracts that were identified comprise only 5% of all census tracts statewide. Of the remaining census tracts, 43% have a moderate share of likely transit users (25% to 50%). Over half of all census tracts have 25% or fewer likely transit users. *This simply means that future efforts to increase transit usage will be the most successful in the "target-rich" geographic areas of the state.*

Are there Opportunities to Increase Transit Ridership in Rural Areas?

In the transit operator focus groups conducted as part of this study, agencies presented promising strategies they have developed to attract potential transit riders. For example, several agencies in rural areas have formed partnerships with other operators to coordinate transit service and fares throughout the region.

Rural agencies experience inherent difficulties operating transit where low-density development prevails. Some are responding to increased demand for commuter service from rural areas to urban or suburban employment centers by providing new types of service, such as express buses. They noted that this service is most effective when express buses run on High Occupancy Vehicle (HOV) lanes, due to the time advantage HOV lanes offer, making transit more competitive with

driving a private vehicle in congested urban and suburban areas. They also indicate there are some funding issues that need to be addressed in regards to inter-county transit service.

Rural transit operators expressed concern over changing demographics in their regions: It is difficult to meet the increasing demand for transportation from seniors who move to rural areas, and eventually become unable to drive due to sensory losses. Transit operators are concerned that the aging of this population segment may eventually overwhelm their rural transit system. One agency reported they addressed this issue by designing transit routes specifically for their senior population, using GIS and demographic data to locate origins (concentrations of senior housing) and destinations (medical offices and retail establishments). Other transit operators employed "bus buddies" who provided fare, schedule, and transfer information and assistance to seniors, as well as other travelers.

The focus groups provided valuable insights into cooperative, market-based (customer driven) approaches to development of transit services by rural operators. These efforts to increase transit use should be explored and encouraged through regionally targeted follow-up research.

7.2.2. How Well does Transit Service Address Customer Needs and Preferences?

For the most part, existing services operated by transit agencies are *adequate for those segments of the population whose need for speed and flexibility are relatively low.* This is in comparison to both the general population, and to the segment of the general population that this study seeks to identify as potential transit riders. Respondents to the telephone survey rated public transit low on three of their four most important mode choice criteria. Public transit does fairly well on safety, but on the factors of reliability, convenience, and flexibility, respondents feel transit needs to improve. *Earning more riders requires improvement in both service and perception.* Respondents consistently emphasize the importance of these factors. In general, this requires more effective marketing, an earned reputation for good service that is communicated through satisfied customers spreading the word, and improvements in routes, accessibility, frequency, punctuality, and travel time. It is essential to identify and satisfy the service-related needs of these groups to retain customers currently using public transit and to attract those with choices about how they will travel.

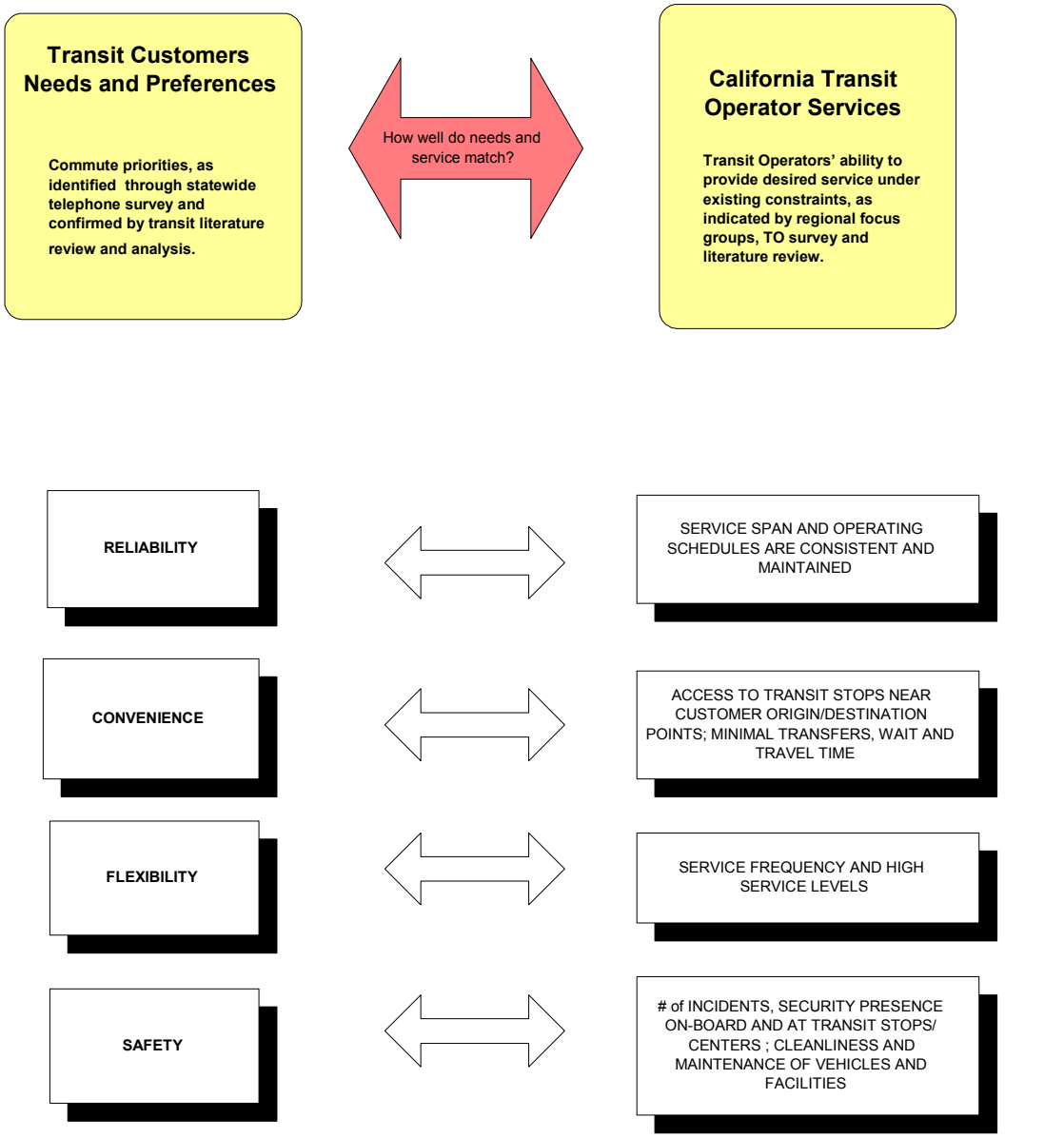
The findings from all tasks addressed in this report indicate the need to develop market-based improvements to services. If transit ridership is to be increased statewide, service improvements must be correlated to needs and preferences of identified market(s). Transit services provided by operators constitute the "products" from which the customer can choose; operational factors impact the quality of that product, and its ultimate appeal and usefulness to the potential customer.

The potential to match services to existing and potential rider needs and preferences depends largely upon the answers of transit operators to a number of basic questions, which include but are not limited to:

- What steps has the agency taken to understand and address existing customer needs?
- Do services meet the needs of existing riders?
- Does the service exist to respond to those needs? Are agency mechanisms in place to translate customer needs into services operated on the street?

- Is the existing service sufficient (e.g. capacity, frequency, scheduling, routing, etc) to attract the next level of potential riders?
- Is there funding to improve or modify service? Can internal service efficiencies be made to realize cost savings and re-direct funding to new or improved services?
- What methods are being used to identify and market services to potential target markets?
- Is there local political and institutional support to implement policy and service-related improvements and modifications to meet the needs of customers?

Figure 7-1 below graphically depicts the relationship between customer preferences and service operated.



Relationship of Customer Preferences to Service Operated

Figure 7-1 | June 2001

Many operators have developed and deployed service "products" that are appealing to existing and potential customers (i.e. Rapid Bus services, high frequency express and commuter bus and rail services). These types of services operate in high demand, sometimes already overcrowded travel corridors, and represent transit operators' best efforts to offer service options that are comparable to the automobile.

Shifting to a primarily market-based approach to service development and deployment would be the next step in the effort to increase ridership on transit. To make transit a viable travel alternative for the traveling public will require a significant change in policy and philosophy for most transit operators.

While transit agencies need to have the flexibility and willingness to respond to their current customers, they will be challenged to continue to provide responsive transit services in the future. This will largely depend on: 1) the availability of adequate funding for service improvements, expansion and implementation; and 2) operators' ability to track market-related demographic changes in order to adjust service.

Where Does the Potential Market Coincide with Relatively Higher Level of Service?

Transit operators located in areas of the state with downtown urban cores (e.g. urbanized areas within the jurisdictions of SANDAG, LACMTA, MTC, and SACOG) operate public transportation services that more closely match the needs of a variety of customers. In these urban areas transit service is generally multi-modal, offering a choice of service types including bus, rail and other modes. In addition, the amount and frequency of service operated, particularly in peak travel demand periods, is significant, giving some riders flexibility in their transit choices. However, even in these optimal cases, less than half the statewide survey respondents reported having convenient transit access from both home and work locations. Given the fact that clearly "more" service is operated in these areas, the potential to increase transit ridership among those who indicate they are likely to ride, exists in urban areas with concentrated populations and a distinct downtown core.

As demographic trends would dictate, many other potential new riders are making rural to downtown, and suburban to downtown commutes. This group of people values shorter travel times, shorter waits, expanded hours and more direct routing and stops closer to their origins and destinations. In order to provide such high-level service for those living and working in the less dense and larger areas of suburban and exurban development, transit operators will need to increase existing service levels, and modify services to include:

- Expansion of inter-city and inter-county commuter services; and
- Development of specialized services designed to accommodate new employment centers and residential developments.

7.2.3. BARRIERS TO PROVIDING SERVICE THAT MATCHES COMMUTERS' NEEDS

Challenging Demographic and Land Use Trends

Population growth over time represents a challenge to transit agencies in operating and planning for new services. The demographic trends themselves are complex—a growing senior population,

a transit-dependent population that needs lifeline service, and increasing ex-urban development creating demand for express buses and light rail from middle-income commuters. Additionally, retail, services and manufacturing industries generally require employees to work late hours and weekends, requiring extended hours of transit operations.

Land use patterns led to low-density suburban development and separate zoning for residential and commercial development, creating trip patterns that are difficult to serve with traditional transit. These development patterns are supported by policies that offer incentives to driving, such as free parking, and continue to engender dependence upon the automobile.

Operators need to increase their current efforts to track and understand regional demographic shifts that can affect service needs and ridership trends. Whenever possible, agencies should try to mitigate the impacts of local and regional land-use policies and decisions. These efforts should include working with local governments, developers and other agencies to establish "transit-friendly" land-use and development policies. Transit operators should actively participate in planning activities associated with new employment and residential developments: Conducting an assessment of transit needs related to the type and location of the development, and responding to those needs by designing viable travel options for potential riders. Expansion of a service driven economy requires extended hours of transit operation to serve employees who work late hours and weekends.

Institutional and Financial Constraints to Ridership and System Development

The greatest challenge for transit agencies is insufficient funding to meet demand. As a result, many operators feel they cannot provide service that meets the needs of all of their potential customers. There are a number of additional issues related to the institutional structure of transportation agencies, and the process and rules for funding transit that can impede provision of "tailored" services for a wide range of riders groups.

Service Coverage and Funding-Related Issues

Operators striving to provide widespread service coverage expressed their ongoing dilemma: Whether to provide less frequent, lower quality service to a wider geographical service area, or concentrate resources on specific service types, high demand corridors or local markets. Often the choice is more political than practical, and generally results in a quality of service that is of limited value to the area's residents.

The primary barrier to development of necessary improvements in transit services is lack of adequate levels of on-going funding. Constrained operating budgets generally force transit operators to seek financial support from external discretionary and competitive funding sources for service improvements and enhancements to their system. Even when available, these sources provide deterrents to transit operators due to excessive and oftentimes punitive funding requirements and conditions, such as:

- High fare box return requirements.
- Ridership guarantees (funding contingent upon assuring ridership at specified levels).
- Limited funding timelines (typically not exceeding 24 months).
- Grants and awards cannot be "matched" with certain other sources of funding.
- Grants and awards are generally limited to capital expenditures and/or specified types of service.

Transit funding issues cannot be overstated: Financial constraints confronting transit operators need to be addressed if they are to retain current riders and attract new ones. Transit operators must work closely with transportation funding agencies in the development of transit funding programs that are designed to assist operators in restructuring routes and creating new services to address the needs of existing and potential riders. The Department and other funding agencies wanting to increase mobility through the development of transit service alternatives will need to re-examine, and if necessary, modify funding policies and priorities to ensure that funding is allocated to projects that address the current need.

7.4. TRANSIT MARKETING STATEWIDE

The transit operator literature review (Chapter 2) details a wide range of marketing strategies employed by transit operators and regional agencies. Transit operators are actively marketing their services, either at a basic level (distribution of route maps and schedule information) or in a more elaborate fashion that includes regular surveys, service marketing, advertising and promotions, and targeted service marketing efforts, including education and awareness campaigns.

Many smaller transit operators have not yet developed the basic marketing tools such as system maps and transit information lines. At the other end of the spectrum, medium to large transit properties that have conducted preliminary survey research now need to conduct in-depth market segmentation surveys in order to develop and implement better service options for identified markets. Transit operators participating in the study effort have indicated their interest in working with the Department to develop and implement a statewide marketing program designed to improve the image of transit, raise awareness and promote goodwill.

7.4.1. EFFECTIVENESS IN MARKETING TRANSIT SERVICE TO INCREASE RIDERSHIP

Beyond information campaigns directed at a specific segment of ridership or service, operators have a fairly limited approach to targeting markets. Oftentimes transit agency marketing efforts will primarily focus upon vocal or disadvantaged groups (i.e. seniors, disabled, etc). There is some desire to use marketing resources to attract new riders, however, transit operators have yet to secure the necessary institutional and funding support to identify and locate the market segments or niches with the most potential, and to develop the service options that will appeal to this group.

Transit operators acknowledged the difficulty and considerable expense in determining whether a specific marketing strategy or program could result in measurable increases in transit ridership. Operators also understand the importance of establishing baseline monitoring and evaluation criteria, since they must be accountable to governing boards and the public.

Transit operators believe increases in ridership are the most important indicator for success of a marketing effort. Operators also believe that other benefits can be derived from marketing activities, such as educating the public and gaining public buy-in and support for the transit system actions and initiatives. However, the causal relationship between the marketing strategy employed and an increase in ridership has been difficult to establish. Lack of data to verify the effectiveness of their strategies makes it even more difficult to obtain funding support and

approval from governing boards for ongoing marketing efforts. At the regional level, additional investigation is needed to determine what strategies operators are undertaking. In particular, stricter evaluation and monitoring techniques need to be developed to assess the effectiveness of these strategies in increasing transit use.

7.4.2. MARKETING'S AMBIVALENT ROLE IN THE PUBLIC SECTOR

A long-standing, and perhaps appropriate, reluctance on the part of governmental entities to engage in publicly funded promotional activities has limited their ability to inform the public about their available services. These externally and internally imposed constraints on self-promotion has occurred at the same time that many transit agencies are expected to operate essentially as commercial entities, with an eye toward growth, productivity and the bottom line.

If transit operator performance and financial accountability is to be held to private business standards, then agencies need to develop a new approach to marketing and image promotion. In addition, "marketing by committee" must be replaced with a more creative, enterprising approach. Along with this new approach, marketing budget allocations should reflect a commitment to achieve sustained public awareness and support for transit.

7.4.3. TRANSIT OPERATOR CONSENSUS ON THE NEED FOR STATEWIDE MARKETING STRATEGIES

Much work remains to be done before initiating projects specifically targeted to an identified market segment. This study has identified some characteristics of potential transit riders that can be used as the baseline for further investigation. Without additional planning and investigation, it would be premature to use the survey data developed from this relatively limited sample size to begin costly marketing efforts.

There is general consensus among those transit operators participating in the regional focus groups that fundamental marketing tools could be developed in coordination with the Department, to include general transit promotional materials that could be used by any transit operator or transportation agency within the state. Having access to such "marketing template" materials can provide operators with a means to respond to immediate opportunities for raising awareness of and increasing ridership, such as gas price spikes, or periods of heavy corridor-specific congestion. This broad-based marketing approach can benefit transit operators by creating an image that emphasizes the importance, value and utility of transit both regionally and statewide.

7.5. LEADING TOWARD RECOMMENDATIONS

Today's transit operators face innumerable challenges in their mission to develop and operate transit services that can address the needs of the public. Prior to presenting the study recommendations, this report will summarize the key findings that best capture the issues facing transit across the state:

- Lack of funding is the primary limiting factor for transit operators in continuing to improve services.
- Service improvement and/or expansion are necessary to attract and retain all segments of the transit market, in both urban and rural areas.
- Marketing is necessary to promote transit, but it cannot substitute for the lack of high-quality transit service.
- People choose to use transit where service is operated at a level deemed convenient, reliable, flexible and secure.
- Survey results generally agree that the identified target market(s) includes both current riders and non-riders.
- Transit operators know a great deal about their current riders, but most do not know enough about where their potential for increases in ridership exist. Operators need a great deal more information on who to market their services to, and how to market their services effectively.
- Transit currently operates in a difficult environment in terms of land use, development, and local, state and federal funding priorities.
- Capacity constraints may limit the ability of transit operators to carry even a small portion of the identified target market if they were to choose to use transit as a travel alternative.
- A more supportive institutional, interagency planning and funding environment would greatly improve chances of developing and implementing successful strategies to increase transit ridership throughout California.
- The responsibilities associated with operating transit services day-to-day often make it difficult for transit operators to address these and other complex issues. The Department, transit operators and other local, regional and state transportation agencies should adopt a "new vision" and approach to planning for public transportation leading to gradual development and deployment of market-driven services. This new approach should be developed in consideration of the following:
- On-going research and investigation efforts should be directed toward expanding the knowledge base of transit operators relative to their specific markets.
- Earning more riders requires improvement in both service and perception.
- Operators will need to increase their current efforts to track and understand regional demographic shifts that can affect service needs and ridership trends, and whenever possible, attempt to mitigate the impacts of local and regional land-use policies and decisions.
- The Department and other funding agencies wanting to increase mobility through the development of transit service alternatives will need to re-examine, and if necessary, modify funding policies and priorities to ensure that funding is allocated to projects that address the current need.
- Transit agencies will need to develop stricter evaluation and monitoring techniques to assess the effectiveness of marketing strategies employed, and be willing to adjust and refine these strategies as needed to achieve objectives.

The actions that are necessary to create change in the transit industry cannot be accomplished in a vacuum. Transit operators will need to work cooperatively with other providers, regional and state transportation agencies, local governments, entities and business and community stakeholders to break down the barriers that have impeded progress in the development of innovative transit "products" that are valuable to the traveling public. The consultant team developed the following recommendations, recognizing that there is *"no one answer, and no one-time answer",* and that each recommendation must enhance and support the overall objective of increasing ridership on public transportation.

7.6. RECOMMENDATIONS

7.6.1. APPROACH TO DEVELOPING RECOMMENDATIONS

The first half of this chapter presents key findings from the various study tasks that examine how transit ridership can be increased in California. At this point in the chapter, the findings are integrated into a framework of strategies and specific project recommendations.

The Department recognizes the need to understand and work cooperatively with transit operators and regional transportation agencies to achieve common mobility goals. As part of the study, the Department conducted transit operator focus groups and developed a transit operator database to lay the groundwork for improved coordination and planning necessary to identify the most effective strategies for increasing ridership on public transportation. As stated previously, the most pressing goal is to shift peak period commuters into transit modes wherever possible; however an additional important goal is to increase mobility throughout the day, in both congested and uncongested areas, by providing and marketing alternatives to the automobile.

Table 7-2 lists a total of twenty-four (24) project recommendations, based on study observations and findings, and an understanding of the institutional needs of stakeholder agencies. The recommended projects can be generally categorized as follows:

- Coordination and Planning
- Market Investigation and Data Analysis
- Statewide Transit-related Strategies and Programs

The overall approach to project implementation is designed to assist the Department in establishing a fully coordinated "from the ground up" strategic framework to plan, develop, deploy and evaluate new plans and programs. Each of the recommended projects will benefit from the process of review, discovery and refinement outlined in the coordination and planning project recommendations.

As shown in Figure 7-2, *Recommended Projects,* coordination and planning projects provide the basis for all other project recommendations. Simply put, there is a demonstrated need for the Department to increase efforts in areas of coordination and planning, both internally and externally. The importance of enhancing intra-and-inter-agency coordination is difficult to overstate, and the extent of its potential positive impact is as large as it is challenging to implement.

Caltrans	Recommended Projects	
	Figure 7-2	June 2001

To plan and implement the project recommendations, the Department needs to consider which projects to undertake alone, which ones to conduct jointly with other agencies, and what roles and responsibilities the various agencies would play in a joint partnership.

Importance of Coordination and Planning

Recommendations related to coordination and planning projects are important because they will create a solid foundation for the Department and other transit stakeholders to collaborate on the development and implementation of a variety of "real-world" projects designed to improve transit ridership. In addition, these efforts will increase the availability of new and existing transit-related data and information.

Many of the project recommendations will require significant financial investment and agency commitment. In order to test promising service and promotional concepts, considerable planning and coordination must occur at the regional level to ensure that project objectives are reasonable, that the project is adequately funded, and that agency roles are clear.

Recommendations Summary

While each project can be undertaken as a stand-alone work effort, all projects can also be undertaken as a systematic strategy to improve numerous aspects of transit over time. Some project recommendations can begin immediately and provide benefits near term, while others will require several years to develop and realize benefits. The project recommendations are summarized as follows:

- *Coordination and Planning, Projects 1-11:* In the first strategy, the Department would establish baseline collaborative relationships with transit operators in seven regions within California for the purpose of implementing selected plans, programs and projects. In the second strategy, the Department would issue a Statewide Call For Projects that meet specified objectives to increase transit ridership, and subsequently oversee implementation of the selected projects. In projects 3-11, The Department would conduct planning activities with transit agencies leading to the development and implementation of transit-related plans, policies and projects designed to promote transit options and opportunities.
- *Market Investigation and Data Analysis, Projects 12-18:* In these projects, the Department would conduct transit service market research and investigation activities to create a solid analytical framework to use as the basis for project planning and implementation.
- *Statewide Strategies and Programs, Projects 19-24:* These projects include statewide efforts designed to improve transit education, marketing and information.

A summary of each recommended project is included in the Project Profiles found at the end of this chapter.

Table 7-2: Project Recommendations

Project Reference Number	Recommendation Type
	Coordination and Planning
1	Establish Seven Regional Transit Partnerships In California
2	Issue Statewide Call For Projects
3	Identify Increased Opportunities for Bus on HOV Express Service
4	Improve Park and Ride Lot Access, Siting, Signage & Maintenance
5	Improve Park-and-Ride and HOV Signage Relative to Transit Opportunities
6	Formulate Service Planning Strategies for Transit Route Refinement and Restructuring Targeted to Serve New Development
7	Develop Strategies for Improved Inter-County Transit Service
8	Assess Impacts of Developing Statewide Policy to Permit College Fee Support for Local Transit Passes
9	Develop Regional Employer Outreach Programs
10	Develop Long Range Planning Initiatives that Address Land Use, Development and Growth Issues
11	Review and Assess Statewide Policies and Procedures Affecting Transit
	Market Investigation and Data Analysis
12	Expand, Maintain & Update Transit Operator Profiles Database
13	Census 2000 GIS Data Indicators Update
14	Develop a Statewide GIS Transit Application
15	Internet Distribution of GIS Results
16	Automated GIS Transit Routing Software Model
17	Conduct Needed Market Research to Refine Understanding of Target Market
18	Conduct Regional Origin and Destination Studies
	Statewide Strategies and Programs
19	Create Template for Basic Transit System Map
20	Develop Statewide Off-the-Shelf Multi Media Marketing Program
21	Develop Transit Phone- & Web-links to Provide One-Stop Shopping for All Transit Information
22	Develop Training Program for Bus Buddy Implementation
23	Create School Transit Education Program
24	Develop Senior Education and Outreach Program

7.6.2. INSTITUTIONAL ROLES AND RESPONSIBILITIES

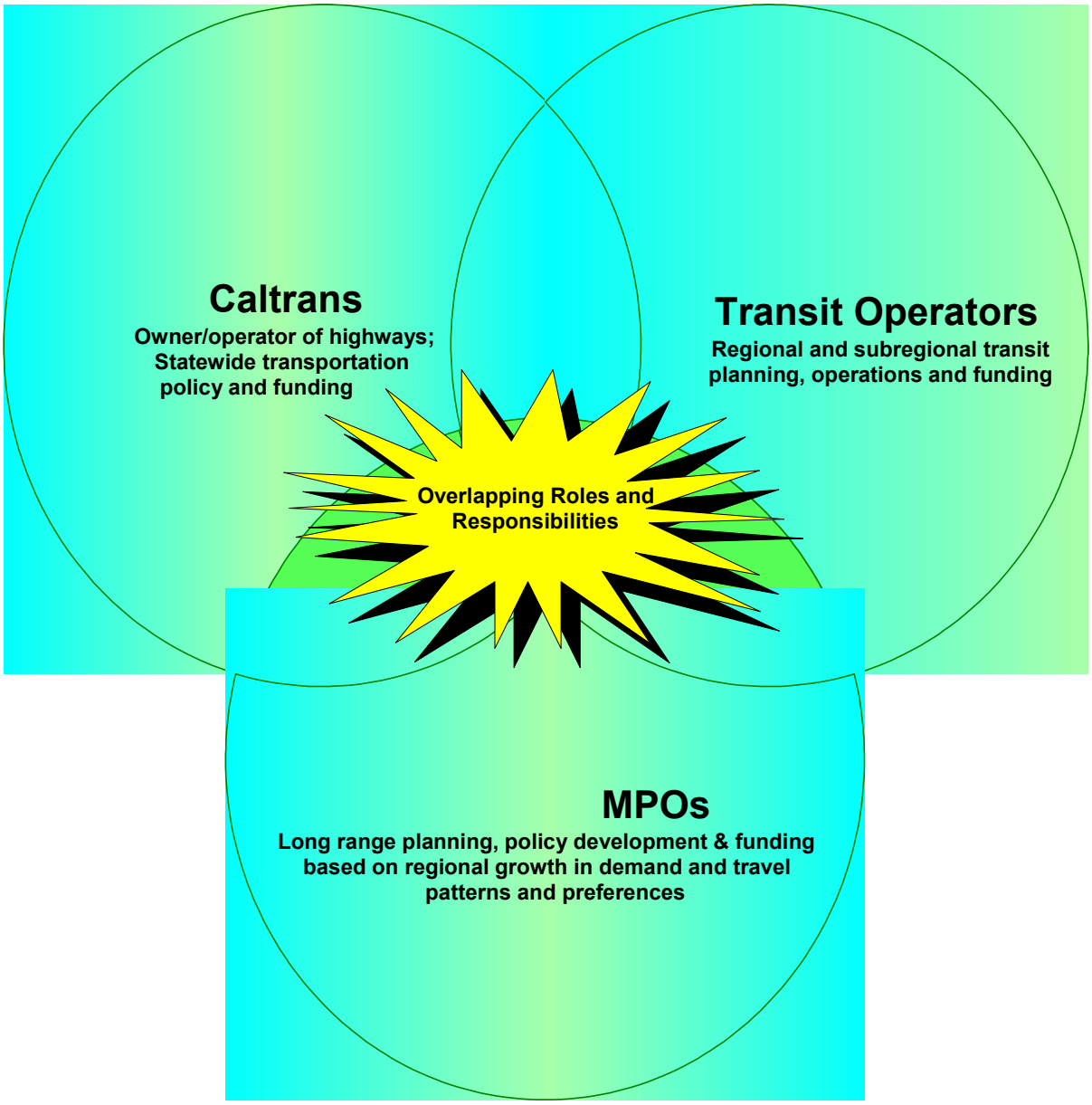
Role of the Department's Division of Mass Transportation Program (DMT)

As a collaborator with considerable influence at the state level, the Department's DMT can potentially play a tremendous role in increasing the use of transit in California. The Department can examine and support local initiatives that have potential for statewide application through information sharing and technical assistance. First, it is important that the Department acknowledge the expertise of the agencies operating transit service, and take advantage of localized knowledge and relationships cultivated between transit operators and its own District staff. Through these partnerships, the Department can facilitate adaptation of promising strategies in the following ways:

- Interregional coordinator/troubleshooter
  - Project coordinator
  - Funder/co-funder
  - Liaison/intermediary
  - Information clearinghouse
    - Marketing best practices
    - Transportation database
    - GIS Interfaces

To effectively implement the recommended projects, the Department will either assume a direct lead role, or an indirect supporting or facilitating role. On some projects, the Department's DMT may assume a role that may be direct and indirect at various stages of a project.

As Figure 7-3 illustrates, there are several areas where the responsibilities of transportation agencies overlap, which can provide the basis for innovation, if an atmosphere of cooperation and inter-agency confidence prevails.



Overlapping Institutional Roles Require Collaboration

Figure 7-3 | June 2001

7.6.3. COORDINATION AND PLANNING RECOMMENDATIONS

Internal Coordination and Communication

Maximizing The Department's' Own Strengths

Coordination and communication are essential to finding an inter-agency, cross-disciplinary set of solutions to the related problems of mobility, congestion and low transit ridership. To effectively address these issues, the DMT should initially develop strong alliances within the Department. Internal coordination can help to solidify management support and strengthen commitment to newly introduced concepts and ideas. Maintaining open channels of communication within the Department's divisions regarding transit issues will be critical in developing and successfully implementing the recommended projects.

The Department has twelve (12) Districts statewide that work with local and regional agencies in the planning, funding and implementation of transportation projects. Over the course of the study, the consulting team discovered that many of the District staff cultivated special working relationships with transit agencies and operators. Through many years of collaboration, they have developed an understanding of their unique local environment.

The Department's DMT should take advantage of the positive cooperative relationships that currently exist at the District level, and take steps to improve agency-wide internal communication, to encourage a regular exchange of information, ideas and perspectives. In addition, District staff should routinely be included in the Department's Headquarters planning activities for projects and programs developed at the local and regional level, and for informational purposes at the state level. Following identification of the appropriate District personnel, it is recommended that the Department's DMT establish a process for the regular exchange of ideas and information on transit-related issues relevant to the DMT's mission. This communications process could include quarterly strategic planning meetings or videoconferences and/or regular notification (i.e. E-mail or regular mailings) concerning the status of transit plans and project activities underway or under consideration. Building support within the department will provide the momentum for the Department to serve as a catalyst to assist transit operators and agencies statewide.

A Framework for Statewide Coordination: Regional Transit Partnerships

The first recommendation calls for the Department to *Establish Seven Regional Transit Partnerships* to develop a coordinated approach to planning and implementing all other project recommendations. This strategy is a response to transit operators' request for increased communication and coordination with the Department.

The most common themes throughout the regional focus groups included the need for improved *communication and cooperation* between the Department and transit operators, and to a lesser extent, MPOs. To take full advantage of existing knowledge on the part of all stakeholders, the Department will need to continue to build upon interagency relationships and take agency-to-agency coordination efforts to a new level. The Department should establish seven Regional Transit Partnerships to facilitate coordination between Headquarters and District staff, transit operating and planning agencies, and other stakeholders, such as the California Transit

Association. A practical outcome of these Regional Transit Partnerships will be better leveraging of the Department's' technical, financial and political resources dedicated to increasing transit use. The Department's DMT would take the lead on creating the Partnerships to:

- Serve as the regional interface for the development and implementation of other study recommendations, including the Statewide Call for Projects.
- Focus efforts into a set of manageable regional and local concerns.
- Coordinate planning activities required to promote transit within its region.
- Organize for effective implementation, project monitoring and reporting and wider deployment, as appropriate.
- Develop mutually beneficial methods for information sharing, storage and access to the Department's' GIS database
- Develop an efficient and effective process to update the GIS and transit operator profiles database.

The consulting team recommends specific regions for inclusion in the Regional Transit Partnerships: Two rural (Lake County and Shasta County areas), one mid-size city (Fresno), one rural-to-urban commute shed (Auburn/Placer/Sacramento) and three urbanized areas (Bay Area/MTC, SANDAG/Riverside and Los Angeles/Orange/San Bernardino).

Selection of these regions is based on three important factors. First, development of new transit strategies needs to take place within a variety of "built" environments: Those with sufficient development density, transit service and infrastructure. Second, the urban areas selected for inclusion in Regional Transit Partnerships are those service areas in which respondents most often described they would be willing or likely to increase their use of transit in the future.

Finally, the selections are based on knowledge of area operators' potential strengths and their ability to contribute to and benefit from a variety of potential demonstration projects. Los Angeles County Metropolitan Transportation Authority (LACMTA), California's largest operator, has a good understanding of its customer base, and is currently experimenting with new kinds of commute service, such as Metro Rapid (bus rapid transit) and express bus service in other travel corridors. LACMTA's neighboring operators are noted for innovation and flexibility, and have expressed interest in participating in collaborative efforts to increase transit ridership. These transit operators include Orange County Transportation Authority (OCTA), Omnitrans, SunLine, and Riverside Transit Agency (RTA), as well as smaller operators such as Santa Monica (Big Blue Bus), Santa Clarita Transit and Foothill Transit.

The Metropolitan Transportation Commission (MTC) offers a promising opportunity to increase ridership in the Bay Area because the agency oversees the widest variety and most intensive service levels available for potential transit riders. Through coordination and planning with MTC, the Department would have an opportunity to leverage the agency's existing strategies and projects, such as their regional marketing umbrella program.

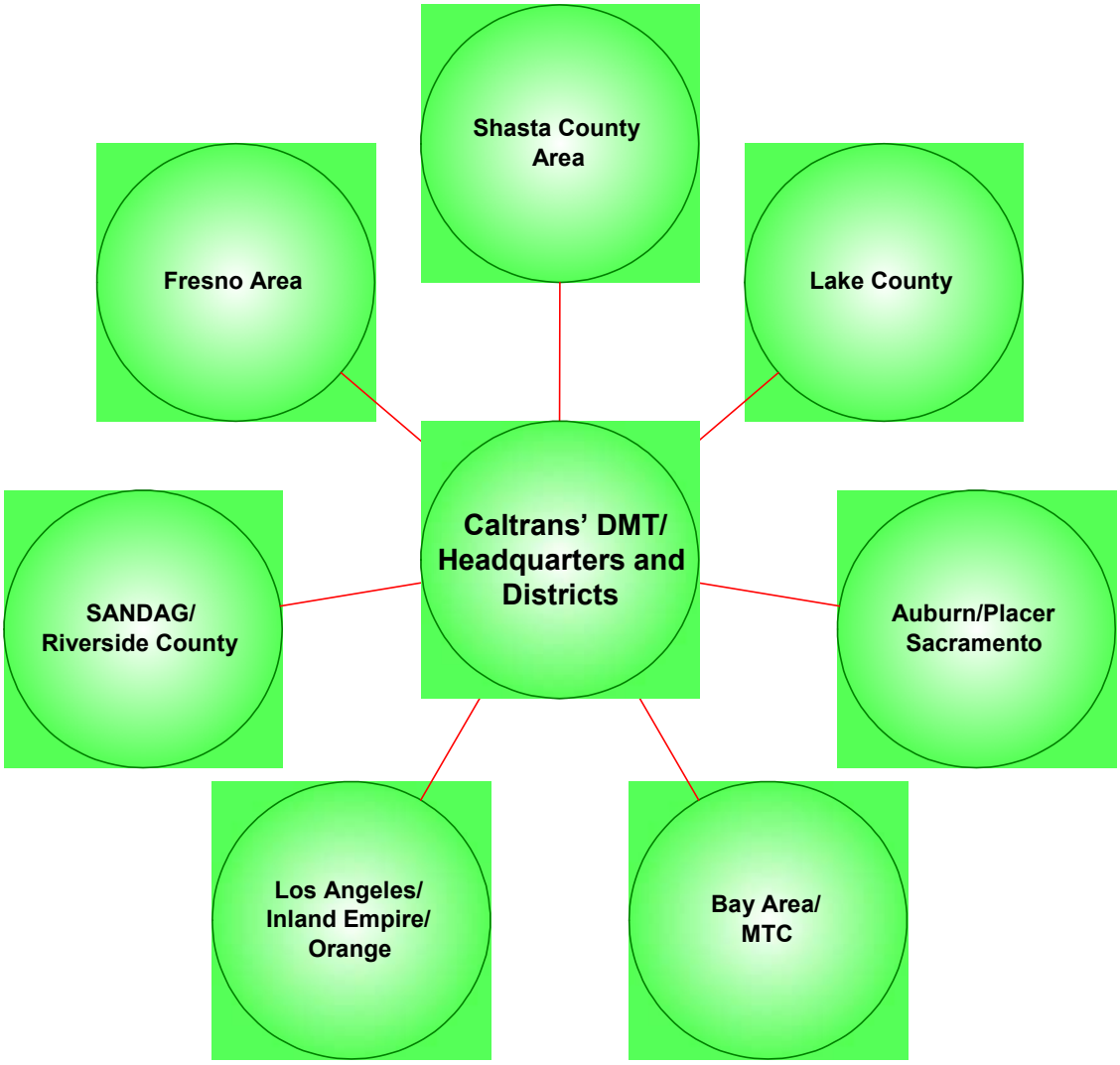
Next, the San Diego region has recently undertaken innovative market segmentation studies, in addition to making a bold political commitment to a long-term transit-rich vision called "Transit First." The Riverside area is included in this partnership, because of the population growth that is projected to continue over the next twenty (20) years in the I-15 corridor, and the need for better inter-county transit service from Riverside, to Temecula, to Escondido to San Diego.

In the Shasta County area and the Auburn/Placer/Sacramento rural-to-urban commute shed, transit operators are already working in regional partnerships to enhance travel on public transportation for current and potential customers.

The Lake County area was chosen because of its significant planning commitment and level of sophistication with respect to its operations. The area includes an interesting tourist component and seasonal travel fluctuation that invites interesting demonstration project development.

The Fresno region represents an opportunity for agencies to conduct proactive transportation planning before congestion becomes an overwhelming issue. Fresno is now at a crossroads, wondering where to go from here. Transit agencies in the area have demonstrated a willingness to experiment with their transit service and marketing, in order to avoid "becoming L.A."

The establishment of partnerships between the Department's Division of Mass Transportation and the districts on the one hand and the seven proposed regions on the other hand is graphically depicted in Figure 7-4 below.



Caltrans	Project #1: Regional Transit Partnerships	
	Figure 7-4	June 2001

Focus group participants generally expressed cautious optimism, or guarded enthusiasm at the prospect of working with the Department to increase transit ridership. One of the Department's responsibilities in a partnership would be to provide commitment and willingness to follow through on projects. (Evidently the Department failed to follow through on commitments to specific programs in the past.). The details of coordination must be clarified in each partnership. The degree of participation may fluctuate also, based on the type of project that is being implemented. The Department may take a supporting role in the development of projects that local agencies have already selected and developed a foundation of political and community support.

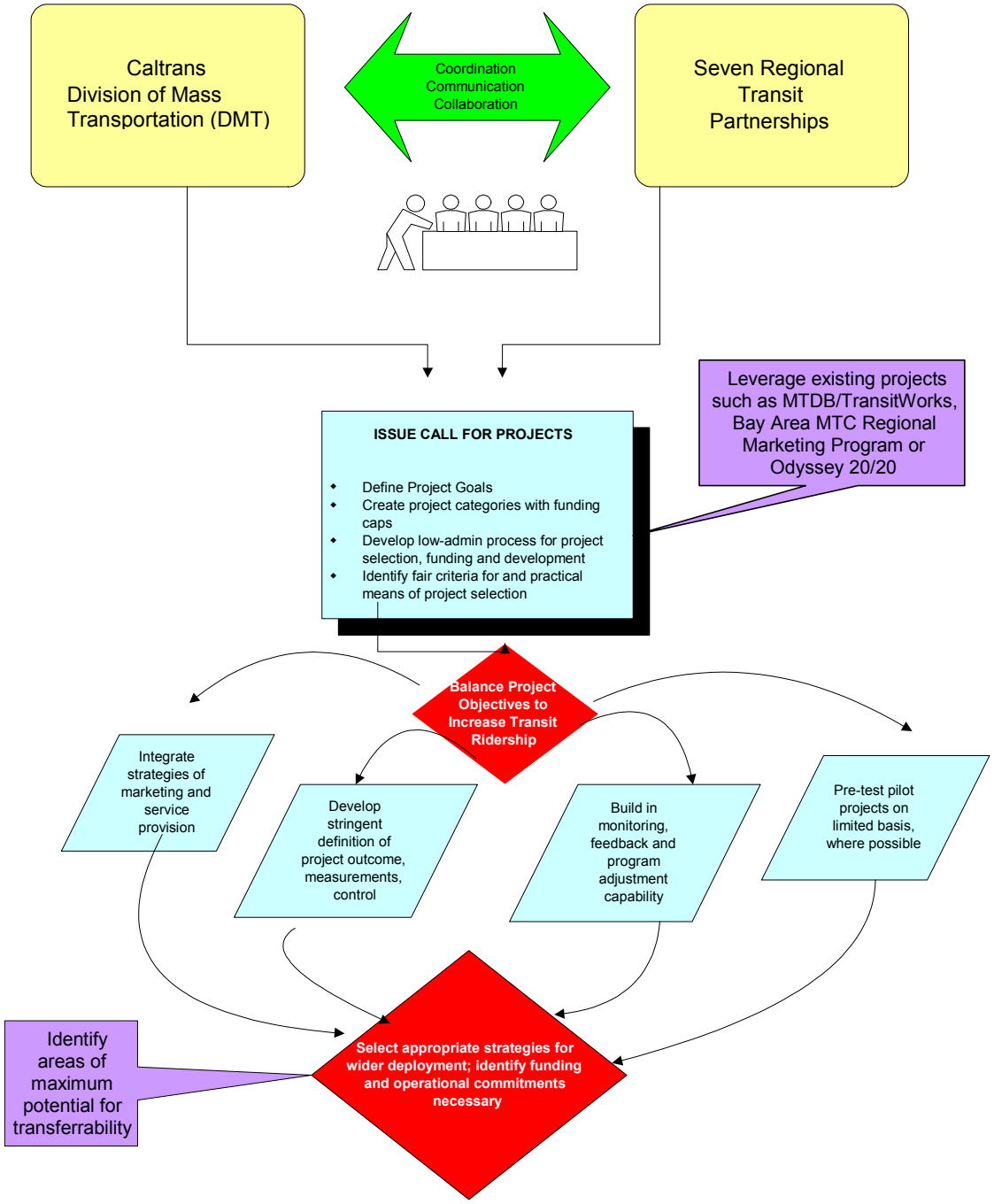
Statewide Call for Projects: Opportunities to Determine What Works and What Does Not

Recommendation #2 (*Issue a Statewide Call for Projects)* describes a cooperative approach which would enable the Department to leverage existing efforts through collaboration with transit operators or MPOs who are interested in or currently involved in the development of innovative plans, programs or projects to increase ridership on transit. Once target markets have been defined, located, and characterized at the regional level, the Department and its transit partners can begin evaluating service and promotional concepts designed to increase transit ridership.

Planning for the Statewide Call for Projects would require the Department and the Regional Transit Partnerships to work cooperatively to develop:

- Goals and objectives
- Project categories
- Funding and match requirements
- Application requirements
- Ranking and selection criteria
- Project timetables

Following this intensive planning process, the Department would solicit statewide project applications that advance the goals set forth by the Department and its transit partners (see Figure 7-5, below):



A Partnership and a Process for Transit Marketing Pilot Project Development

Figure 7-5	June 2001

Establishing Project Approval Parameters

A number of critical elements should be included as a part of any project approved for funding:

- Integration of service improvements along with promotion of those improvements.
- Iterative deployment of project features in order to isolate causal factors.
- Monitoring, feedback and program adjustment capability built-in to strategy.
- Where practical, allow for a pre-test of demonstration projects on a limited basis before full deployment.
- Funding and operational commitments for full deployment if project is deemed worthwhile.

In order to evaluate the effectiveness of the service or promotional concept, it is critical that project criteria include development of control and baseline data, as well as rigorous program monitoring.

Applications for funding should at a minimum, combine elements that address two factors relative to each transit operator or region. The first factor relates to the product to be marketed: Peak period service (urban areas) or transit access/mobility (rural areas). The second relates to the existing level of marketing in use by the local transit operator(s). Cases 1-4 below illustrate the relationship between these two factors.

Case 1	Congested areas with available transit capacity at peak	Focus on marketing strategies; ensure that mix of service and level of service matches needs.
Case 2	Congested areas with no peak period transit capacity available	Consider new or restructured service; then market it effectively.
Case 3	Minimal marketing, minimal service with ability to expand service	Use market research to restructure, improve or expand service to be more responsive; then market it effectively.
Case 4	Minimal marketing, minimal service and no ability to expand	Need for fundamental service development and marketing assistance.

The demonstration projects that emerge through the Call for Projects offer the Department and its regional transit partners an opportunity to determine what works and what does not, and the applicability of various strategies in different operating environments.

Overview of Planning Project Recommendations

This consultant team developed nine (9) planning projects (see Table 7-2, Recommendations #3-11) which can be characterized in one or both of the following ways:

- Project development planning leading to implementation including, but not limited to, the following activities: Goal setting, criteria development, establishing monitoring and reporting procedures, identifying funding, coordination of roles and responsibilities, development of promotional materials, etc.

- Policy planning that leads to the development of new and/or modified transit-related policies or practices.

In the focus groups, transit operators identified various areas that would be appropriate for the Department to become more involved. The agencies specifically requested that the Department work with them to address the following issues related to increased transit ridership:

- Transit operators need the Department to build more support facilities for transit - flyovers, park and ride lots, HOV lanes, plus for operating buses, not just purchasing them. (See Recommendation #3, *Identify Increased Opportunities for Bus on HOV Express Service).* When planning a new highway or HOV lane, the Department should ensure the opportunity to include multi-modal considerations in all levels of design.
- Recommendation #4 (*Improve Park and Ride Lot Access, Siting, Signage & Maintenance*) involves facilities under the Department's direct control. In each of the focus groups, transit operators pointed to deterioration of the park and ride lots since the Department has curtailed maintenance of the facilities over the years. One result of increased inter-agency coordination could be better siting and design of the park and ride lots. According to many transit operators, these lots are located and constructed with limited consideration of current or potential transit routes or access. As a result, transit vehicles frequently need to deviate from their routes in an inefficient manner, losing any time advantage relative to a similar automobile trip. Moreover, inability to access park and ride lots led some transit operators to lease other parking facilities, leaving the Department's facilities unused.
- Another area under the Department's direct control involves HOV signage issues, which can be similarly addressed through consultation with its regional transit partners under Recommendation #5 (*Improve Park and Ride and HOV Signage Relative to Transit Opportunities*).
- In coordination with other state and regional partners, the Department should take a firm lead in helping to establish requirements for transit-friendly land use policies in Recommendation #10 (*Develop Long Range Planning Initiatives that Address Land Use, Development and Growth Issues).*
- While many operators appreciate their District's assistance, they also expressed frustration at the institutional and administrative burdens imposed on transit operators who sought project funding. The Department should develop methods to limit administrative burden on operators, especially smaller agencies who lack the staff resources required to apply for Department-funded projects and programs. (Recommendation #11: *Review and Assess Statewide Policies and Procedures Affecting Transit)*

Planning Efforts to Address Barriers to Successful Transit Operations: Service and Policy Review

There are numerous external factors, which directly and indirectly support or present barriers to operating transit. When asked during the focus group sessions to discuss institutional, operational and funding practices that encourage or discourage transit ridership, transit operators and agencies offered a variety of perspectives (see Regional Focus Group Summary, Chapter 5 of this report), which were subsequently translated into project planning recommendations by the consultant team.

In addition to providing planning and marketing assistance in implementation of new transit services, such as intercounty services, the Department can assume a more proactive role by

evaluating the impact of transit-related policies, and seeking changes in these policies as warranted. Recommendation #11 (*Review and Assess Statewide Policies and Procedures Affecting Transit)* focuses on development and support of transportation policies and services that have the potential to strengthen the transit-operating environment statewide.

Some planning/policy review efforts suggested by transit operators in the focus groups include:

- Re-assessment of the Department's funding-based performance requirements like fare box recovery ratios—they often inhibit the ability of operators to provide the optimal service in an area, and limit how experimental an agency can be in providing new or expanded service.
- Creation of dedicated programs for TDM and transit, separate from highway projects.
- Strike a better balance between highway and transit funding, both between the Department and operators, and locally between MPOs/CTCs and operators.
- Develop a proactive, long-range planning vision for support of rural transit operators. Current practice too often requires that rural operators demonstrate a significant impending crisis (i.e., "wait until it's broken") before the Department directs its resources and attention on rural transit and mobility needs.
- Review the Department's policies related to funding operational costs for service.
- Assist operators in identification of state funding mechanisms that provide for shared costs for inter-county service.
- Address the "color of money" funding issues that make programming so difficult for rural operators receiving the Department's funding.
- Create a discretionary grant program to solicit projects that address service gaps, as well as lack of frequencies between counties or between service areas.

7.6.4. MARKET INVESTIGATION AND DATA ANALYSIS

This section discusses project recommendations #12-18 (Table 7-2) and includes four (4) GIS-related research projects, one database management project and two (2) market-related research projects (quantitative/qualitative research and origin/destination studies).

Overcoming the "Research Required" Hurdle

The perception that research-related work activities generally result in limited or no follow-up actions oftentimes makes it difficult to argue effectively for research that is truly fundamental to an implementation process—research that must be conducted if the projects themselves are to be successful. It should also be noted that reluctance toward conducting "just research"— is shared by transit operators, and was expressed during the regional transit operator/MPO focus group work effort.

The consultant team has identified a number of project opportunities that are justified based on existing knowledge, including the recommendation to issue a Statewide Call for Projects. The Call for Projects from which the larger body of project implementation efforts will derive, essentially depend upon effective, targeted market research and thorough planning.

It is important to understand that in order to promote transit service effectively, much more must be known about potential target markets. Project implementation without sufficient knowledge of

the market, would almost certainly result in more of the same: Development of premature or unwarranted service and marketing strategies, involving monumental expenditures of public funds, conducted with limited or no real understanding of how effective these strategies might prove to be.

A final point to make is that "research" is far from incompatible with action. If goals and objectives are clearly defined, research can be an effective tool in determining the direction and feasibility of subsequent actions.

Qualitative and Quantitative Market Research Recommendations: Market Research to Refine Understanding of Target Market

Today, the transit industry is at the crossroads of this issue: To operate services that more closely match the needs of customers, or maintain the status quo. Developing new services or restructuring existing service to meet customer needs represents an immense challenge to transit operators. For larger urban operators, service restructuring and refinement efforts would most certainly be costly in terms of staffing and financial resources, not to mention the difficulties of building and maintaining political and management support. However, sufficient research has been conducted showing that the current approach does not meet customer needs, resulting in erosion of ridership and gradual system decline.

It is important; therefore, that the Department and its transit partners interested in increasing transit ridership conduct thorough market studies at the regional level to continue to develop in-depth profiles and characteristics of those who are likely to increase their use of transit. These targeted research efforts can provide information and insights necessary to develop and implement services best suited to customer needs.

Recommendation #17 (*Conduct Needed Market Research to Refine Understanding of the Target Market)* includes both qualitative market analysis (conducting focus groups to obtain input from target populations) and quantitative market analysis (transit market segmentation studies, as appropriate).

The Value of Conducting Preliminary Focus Groups

Market research is only useful if thorough planning is conducted at the outset. If market research is not customer oriented, it can miss the mark. An example provided by Theodore Levitt, in *The Marketing Imagination* (p. 154) tells the story of Detroit auto manufacturers who continued to lose millions of customers to foreign auto makers offering compact cars. Detroit auto companies spent millions on consumer research each year, but their research failed to show the booming new market in smaller, more economical cars. Levitt states that this failure to discern customer preferences is due to the fact that "Detroit never really researched the customer's wants. It only researched his preferences between the kinds of things which it had already decided to offer him."

The statewide telephone survey conducted during this study has identified three groups that may be target market segments: Regulars, Occasionals and Recruits. Future research should include focus groups (rider, non-rider and perhaps some additional transit rider and professional groups) to help determine the extent to which these groups can usefully be targeted for further market segment research. Focus group participants can provide input useful in the development and

testing of specific service or operational improvements, as well as appropriate promotional strategies. Participants can provide valuable insights concerning consumer values, attitudes and lifestyle choices and underlying motivations, as well as current travel behavior.

Why Market Segmentation?

The statewide telephone survey findings point to a promising group of respondents - those who state they are likely to increase their use of public transit in the near future (Recruits, Occasionals, and Regulars). However, considerably more insight is needed regarding these and other categories of potential riders prior to development of demonstration projects. A technique that has been used for many years in the private sector to obtain insight into specific subgroups of consumers is called *market segmentation.*

> "…market segmentation is focused on consumer needs. In a "differentiation" strategy, the company would try to make "something for everybody," without in-depth study of any particular group within the market. Companies took a "global" view of the marketplace, and then tried to make a variety of things. Today, transit agencies frequently use a "differentiation" strategy, thinking they are using market segmentation. Offering different levels and types of bus service—fixed route, direct service, express service, neighborhood service with variable routing—in a single market exemplifies a "differentiation" strategy. Many of these services have been offered without a clear understanding of the needs of the riders and the community for which the service has been developed. The records of accomplishment of these efforts shows *(sic)* that while some services have achieved moderate success, others have failed miserably, attracting little or no ridership." (TCRP Report #36, p. 4)
>
> "Market segments consist of groups of people or organizations that are similar in terms of how they respond to a particular marketing mix or in other ways that are meaningful for marketing planning purposes." (*Ibid, p. 5)*

The objectives of market segmentation research include:

- Delineating regional/localized needs, perceptions, attitudes, and potentials.
- Further identifying service-related improvements necessary to induce transit usage.
- Developing "lifestyle" analyses to aid in marketing.
- Pinpointing specific characteristics of target market segments amenable to marketing influence.

Market segmentation studies need to be conducted on a regional level to identify target markets specific to each region. For example, rural transit operators may discover that seniors represent one of their most significant market segments, while urban transit operators may find that inter-county commuters represent one of their key market segments.

The San Diego TransitWorks Model

A number of transit operators across the state are engaged in a complex planning process relative to addressing future transportation needs through increasing transit investment. San Diego's MTDB and North County Transit District recently developed a comprehensive process, beginning with a sophisticated market segmentation study. The operators, along with other agency

stakeholders, conducted an extensive market survey analyzing customer characteristics, attitudes and behaviors in an effort to define distinct segments and attract them to public transportation through specific services and marketing strategies. Market research revealed that "two specific attitudes—sensitivity to one's personal travel experience and one's need for flexibility and speed—proved to be the key factors in leading to the segmentation of the San Diego market into six discrete groups of travelers…" which were given labels describing their key traits. The agencies did not stop there; transit planners then developed service concepts and four increasingly intensive scenarios that ranged from "basic mobility" to an extensive transit network called "Transit First." In October 2000, the MTDB Board of Directors voted to adopt the most extensive and ambitious plan - "Transit First." After extensive coordination, planning and research, the agencies are proceeding to the implementation phase of the service and market strategy. Much of the work will involve close collaboration with its partners, the Department, SANDAG, local jurisdictions and the City of San Diego. In this way, it hopes to maximize the impact of costly capital and operating investments. Currently, the agency is identifying near-term demonstration projects (*TransitWorks, pp. 3-7).*

Agreeing on What Questions Remain to Answer

This study identified three general groups of individuals likely to use transit (Regulars, Occasionals and Recruits) and some general behavioral/attitudinal indicators. It will be crucial, however, to conduct additional research to further understand these three groups, particularly their values and motivations, and to channel this information into specific actions. As previously discussed, the research process which should be conducted within smaller regional areas, should begin with face-to-face focus group sessions, and be followed up by additional telephone research, and perhaps one-on-one interviewing.

A number of issues that were identified during the telephone survey must still be addressed in future research efforts. These include, but are not limited to:

- Further delineation of the target market's attitudes, perceptions and expectations toward transit, by market area (the sample size in the statewide survey was too small to reliably analyze the three groups by market area.).
- Identification of expectations and opinions relative to transit services and facilities (stops, transit centers, rail stations, park-and-ride lots, etc.).
- Identification of the current promotional strategies that are the most effective.

In addition, questions remain with respect to potential regional variation in the target market, and the ability of transit agencies to identify and respond to these variations. These questions include:

Who exactly are the people in the target market?

- Do "Regulars, Occasionals and Recruits" define the likely universe of people who should be targeted in future survey research? Can we identify market segments within each of these groups?
- Are there other "groups" who should also be targeted as "segments"?
- Do these vary by region? How variable are they over time? How can the changes in their needs be tracked efficiently?

What else can we know about this group, with a sufficiently large regional sample?

- Demographics
  - Income
  - Gender
  - Occupation
  - Age
- Lifestyle
- Frequency of Usage
- Attitudes
- Behaviors
  - What marketing strategies invoke a positive response?

In subsequent research, the Department should consider exploring what kinds of service people want, and whether transit agencies have the capability to provide what they want. The Department, in cooperation with transit agencies, should also identify other factors that contribute to changes in ridership, e.g., parking availability, gas and parking prices, levels of congestion, fare and service changes, operations problems, etc.

Efforts to Achieve a Better Match of Service and Customer Needs: Origin and Destination Studies

It will be important not to use marketing to raise expectations beyond those that can be satisfied with available service, or service which is about to be introduced, expanded or improved.

In order to provide a closer match between service and customer travel needs and preferences, hard data on trip origins and destinations is essential (see Recommendation # 18, *Conduct Regional Origin and Destination Studies).* For most transit providers, an origin-destination (O&D) study is conducted once per decade, if at all, and is often provided as a service of the Metropolitan Planning Organization. An O&D study is, admittedly, expensive, but it can provide transit agencies with the best and most detailed information with which to design and fine-tune routes, schedules, transfers points and vehicle type and size. Ultimately this can enhance service productivity and efficiency. By closely matching service to needs, productivity can be improved, with resulting increases in ridership and potential for extension of transit's penetration into other markets.

Transit Data and Information: Transit Operator Profiles Database

The transit operations and service data compiled as part of this study represent a snapshot of transit conditions across the state. As a static image, this data has some usefulness. However, the intention is that this database will continue to be expanded to include additional elements deemed appropriate by the Department (e.g. transit service areas and routes). As the Department begins to coordinate their efforts with transit operators, the agency should come to collective agreement about approaches to share, maintain and update the database so that information remains current and available to transit operators statewide. If the database is maintained and updated over the years, historic trends can emerge, which can be combined with other data for analysis of services and operations. When viewed in combination with regional origin and destination and market-

related studies this data can help the Department with transportation planning and analysis regionally and statewide. In particular, it can provide valuable information required for a comparison between customer expectations and available transit service (refer to Recommendation #12, *Expand, Maintain and Update Transit Operator Profiles Database).*

GIS-Related Research

The consultant team identified four possible GIS-based research projects for the Department to consider undertaking as part of a GIS vision outlined in Chapter VI. The GIS tools developed in this study will be useful in identifying the geographical locations with the greatest potential to generate transit riders (Regular, Occasionals, and Recruits). The first three projects can be undertaken independently in any sequence but are designed to build upon each other without redundancy. The fourth project (Develop a Statewide GIS Transit Application) can be implemented separately or be integrated with the other three as part of the overall GIS vision (Refer to Project Profiles - Projects 13 through 16).

7.6.5. STATEWIDE STRATEGIES AND PROGRAMS

A number of projects (Recommendations #19-24, Table 7-2) have statewide implications for transit operators. These projects are specifically designed to enhance transit education, marketing and information.

Marketing: The Call to Create and the Power to Excel

If transit agencies wish to compete effectively with the well-orchestrated automobile industry for a share of the transportation market, they need to employ more creative and insightful approaches to improving the image of transit.

In *Divorce Your Car! - Ending The Love Affair With The Automobile,* author Katie Alvord summarizes the myths and promises used by private enterprise to manipulate the American psyche into equating fanciful desire with absolute need - all rolled up into a delivery system called *the car*:

- Speed, power, dominance
- Status and wealth
- Safety, serenity and family
- Freedom and escape
- Nature and environment

Automobile marketing experts have created a compelling image of our car as a safe haven, whisking us toward an attractive destination. Rather than selling transportation, they are selling an image of idyllic freedom. Of course, we know that this image does not portray the total automobile experience; such as the frustration and powerlessness we may feel when driving in bumper-to-bumper traffic on congested thoroughfares.

Now, what is the transit industry able to offer as an alternative? The industry needs to first offer *exemplary efficiency and quality transit service*, but that still will not compare to the wonders of the automobile created by Madison Avenue.

The transit industry needs to develop a truly *service-oriented attitude,* which places the customer first. As long as some transit agencies remain complacent and provide minimal service to maximum people, nothing will change. Instead, transit agencies need to create greater opportunity for consumer feedback and iterative adjustment of service, operations, and marketing in consideration of consumer needs and preferences. The transit industry must therefore develop a product that offers benefits comparable to the car, and then market those benefits in order to attract and retain ridership in various markets.

It is hoped that all transit partners who choose to work with the Department will also embrace the goals associated with the coordination and planning project recommendations resulting from this study. These goals are designed to focus transit agency management on a commitment to the necessary research, service and marketing initiatives that must be employed to pose an effective alternative to the private vehicle.

7.7. PROJECT PROFILES

The Project Profiles provide a summary of each project recommended for implementation as a part of this study. Each Profile contains the following information:

- A brief description of the project
- Project objectives and justification
- Estimated length of time to implement projects
- Agencies that could work with The Department to develop and implement the project

In addition, wherever possible, estimated costs and/or considerations associated with implementation of the project have been enumerated.

Recommendation #1	***Establish Seven Regional Transit Partnerships in California***
Description:	Establish seven Regional Transit Partnerships for the purposes of facilitating communication and coordination between the DMT, the Department districts, transit operators and MPOs and other stakeholder agencies as appropriate, in the following regions: • Bay Area/MTC • SANDAG/Riverside County • Los Angeles/Orange Counties/Inland Empire • Auburn/Placerville to Sacramento commute corridor • Shasta County area • Fresno area • Lake County area
Project Objectives:	• Increase the Department's involvement and interface with transit agencies at the regional level. • Coordinate regional strategic planning activities relative to improving mobility and expanding transit services. • To provide a mechanism to implement other project • To leverage regional and statewide planning, technical and • Ensure that rural and exurban operators receive proportionate transit ridership.
Collaborating Partners:	• The Department's Mass Transportation Program • The Department's Districts in Partnership areas; HOV/Bikeways/Highway Ops; Traffic Management • Transit operators and MPOs • Others, as appropriate: Airports, local/regional rideshare agencies, transportation management agencies, large employers, • Local jurisdictions, private transportation/paratransit providers
Implementation Timeline/Evaluation Period:	6 months to establish group and develop mission and objectives then ongoing; Review and adjust process periodically; Assess progress at end of 2 years to determine effectiveness in developing and/or implementing successful projects/policies.
Estimated Cost:	Undetermined; implementation will require staff time and resources to

Recommendation #2	
Description:	Develop appropriate process, procedures, application and selection criteria to identify and implement most promising transit marketing/service-related demonstration projects statewide. The Department should establish rigorous measurement, analysis, control study, monitoring and reporting for each demonstration project, to compare to initial project goals, and establish causality. The agency should also assess transferability or full deployment of project strategies to other regions.
Project Objectives:	• Approve, implement and fund demonstration projects and evaluate results. • Identify successful projects and strategies for wider statewide application.
Collaborating Partners:	• The Department's DMT and Districts • Transit operators and MPOs • CTA • Other state agencies as applicable • Academic partners to assist in demonstration project design and evaluation (UC/Cal State schools)
Timeline/Evaluation Period:	6-9 months to coordinate with transit partners to establish application process and procedures and issue call; Use GIS to assist in project evaluation. Undetermined.

Recommendation #3	
Description:	Use highway planning/building function of the Department to leverage maximum opportunity to include bus on HOV lanes. Work with regional partners at early development stage of construction projects in order to optimize integration of transit-friendly features and design. Establish and publish and/or update parameters for transit-related design considerations.
Project Objectives:	• To "mainstream" consideration of transit in highway and freeway planning. • To ensure as much time/travel advantage as possible for transit through provision of bus-on-HOV service.
Collaborating Partners:	• The Department • Transit operators and MPOs
Timeline/Evaluation Period:	Immediate implementation, following adequate planning; Establish objectives and monitoring mechanisms to periodically (every 24 months) review and assess utilization of express service on HOV lanes.
Cost Estimate:	establish or update design parameters and identify facilities statewide.

Recommendation #4	***Improve Park and Ride Lot Access, Siting, Signage & Maintenance***
Description:	Return to active involvement, oversight and management of Park-and-Ride lot operations. This "return to active duty" would include site visits and coordination with local transit agencies to determine status of existing facilities, and process and methods to improve or further develop these facilities for use by transit operators. • Contribute to options available for people to use transit. • Increased access and better maintained Park and Ride facilities for carpoolers as well as transit users. • Conveniently located sites in terms of transit route and freeway/arterial access. • Improved facility utilization; increased customer satisfaction with facilities and therefore increased propensity to use associated transit routes (at transit center lots).
Collaborating Partners:	• The Department's DMT, other departments and districts • Transit operators and MPOs • Regional Rideshare Agencies • Transportation Management Associations (TMAs)
Implementation Timeline/Evaluation Period:	Immediate implementation, following adequate planning. Six months to ramp up; Develop coordination processes and procedures; Evaluate cost effectiveness and facility utilization each year.
Cost Estimate:	Undetermined. The Department should review previous costs to manage and maintain these facilities to assess project feasibility.

Recommendation #5	***Improve Park-and-Ride Lot and HOV Signage Relative to Transit Opportunities***
Description:	Improve HOV and Park-and-Ride lot signage to provide transit and HOV users with information necessary to fully utilize these facilities. For example, Park-and-Ride signage should include a listing of transit services accessible from that lot and posted system maps or bus schedules. The Department could improve freeway signage to indicate which express buses utilize HOV facilities and their corresponding schedule information.
Project Objectives:	• To encourage full utilization of existing transit facilities. • To improve customer knowledge of transit services in an effort to increase transit system usage.
Collaborating Partners:	• The Department's DMT, other departments and the districts • Transit operators
Implementation Timeline/Evaluation Period:	Immediate implementation, following adequate planning related to placement and subject matter of signage.
Estimated Costs:	Undetermined.

Recommendation #6	***Formulate Service Planning Strategies for Transit Route Restructuring and Refinement Targeted to Serve New Development***
Description:	The Department and its regional transit partners would work to develop strategies and approaches that could be useful in the provision of services specifically designed to promote transit access and connectivity to newly developed residential and employment centers. Planning activities could include the development of guidelines to assist transit agencies in working with local jurisdictions, developers and businesses to ensure that transit-friendly elements are incorporated into new developments.
Project Objectives:	• To routinely and actively involve transit operators in the planning process for new residential and employment-related development. • To encourage and facilitate the use of transit in all sectors of the community. • To achieve increased transit productivity whenever possible. • To develop critical communication links between transit operators and local government, developers and businesses.
Collaborating Partners:	• Transit operators • Local jurisdictions • Developers • Businesses
Implementation Timeline/Evaluation Period:	Initial planning effort to develop guidance and strategic approaches; On-going coordination and planning at the local and regional level; Evaluation based upon individual operator actions.
Estimated Costs:	Undetermined. Service and operating cost dependant upon routes operated and will vary between regions.

Recommendation #7	***Develop Strategies for Improved Inter-County Transit Service***
Description:	Identify corridors (such as the I-15 from Inland Empire/Temecula area to San Diego; High Desert to Rancho Cucamonga/San Bernardino area; rural to urban commute sheds such as I-80 and US Highway 50 Corridor to Sacramento), which would benefit from the development of new or expanded inter-county transit services.
Project Objectives:	• Expansion and/or implementation of express transit services designed to increase the availability of inter-county travel options. • Collective identification and removal of barriers (operational, policy, institutional, funding) to providing high-quality inter-county service.
Collaborating Partners:	• The Department • Transit operators and MPOs
Implementation Timeline/Evaluation Period:	Immediate implementation, following adequate planning; Measure and monitor changes in ridership and customer satisfaction on these services over base case beginning at 12 months.
Cost Estimate:	Undetermined. Service and operating cost dependant upon routes operated and will vary between regions.

Recommendation #8	***Assess Impacts of Developing Statewide Policy to Permit College Fee Support for Local Transit Passes***
Description:	Assess the potential to implement a program of student fee support for transit passes. Some transit operators have worked with colleges and universities to negotiate sales of transit passes on campus. Presently, colleges and universities charge students a number of required (ASB fees, health center fees, etc.) and optional fees (i.e. parking) during school registration. There may be an opportunity to include an optional fee for the purchase of discounted transit passes as part of the college student fee structure. The transit pass could be promoted for a short trial period or for longer-term use. The Department would need to coordinate with other colleges, universities and state agencies to investigate the feasibility of implementing a project of this nature.
Project Objectives:	• To promote the use of transit to college age individuals by increasing their awareness of transit options, and by providing convenient fare media purchasing opportunities.
Collaborating Partners:	• The Department • Transit operators • Colleges and State Universities • Other State departments (i.e. Education)
Implementation Timeline/ Evaluation Period:	Immediate implementation; Thorough investigation of college and university interest, support and fee policies.
Cost Estimate:	Undetermined.

Recommendation #9	***Develop Regional Employer Outreach Programs***
Description:	Identify methods and strategies to effectively involve employers in promoting and potentially funding transit options for their employees. These methods could include but not be limited to: • Employer transportation forums and events. • Planning for shuttle services connecting employer work sites with transit stops and stations. • Encouraging increases in employer subsidy of transit as an incentive for employees. • Distribution of transit information.
Project Objectives:	• To obtain support and develop partnerships with employers in the community/region. • To improve the image of transit . • To investigate the potential for outside funding for transit related projects and services.
Collaborating Partners:	• Transit Operators • Employers • Chambers of Commerce
Implementation Timeline/Evaluation Period:	3-6 month timeline to prepare general strategies and approaches based on regional assumptions; On-going work by operators to interface with local employers. Success of strategies will depend largely upon operator commitment and action.
Estimated Cost:	Undetermined; will require the Department's staff time to work with transit operators to develop guidance and strategies, as well as, follow-up by region.

Recommendation #10	***Develop Long Range Planning Initiatives that Address Land Use, Development and Growth Issues***
Description:	Establish a regular focused, statewide discussion forum for long-term visioning relative to the issue of highway building, mobility and real estate development, recognizing that transit operators cannot address these issues without the participation and partnership of major development and planning entities. Rather than "re-inventing the wheel", the Department should seek to leverage existing and/or planned work efforts of transit and other agencies in an effort to encourage dialogue and understanding of the various perspectives.
Project Objectives:	• Establish principles of mobility sustainability. • Determine and allocate responsibility for ensuring a livable future. • As appropriate, develop regulatory frameworks to ensure that agreed upon objectives are carried out. • Long range planning. • Stimulate the Department to undertake and/or support joint development under existing state law. • Opportunity for the Department to work with EDD, other state agencies, related to Federal Workforce Investment Act, and HCD (Housing and Community Development), Cal Trade and Commerce
Collaborating Partners:	• The Department • Transit operators and MPOs • Development community • Building Industry Association • Environmental Organizations • Community Groups
Implementation Timeline/Evaluation Period:	Immediate implementation; This type of effort can only be evaluated by the quality of participation, the level of follow-up and commitment to addressing and resolving issues demonstrated by the partners.
Cost Estimate:	Undetermined. Considerable Department staff time and effort to develop an agency agenda, investigate current activities statewide relative to the issues, and to develop and/or participate in roundtables and discussion forums.

Recommendation #11	***Review and Assess Statewide Policies and Procedures Affecting Transit***
Description:	Review statewide policies that affect transit (e.g. funding, performance, administrative, etc) for the purpose of determining the continued viability and impact of these policies relative to the goal of increasing transit ridership. The agency should also compare and assess the impacts of transit-related policies in other states to identify "best practices".
Project Objectives:	• To ensure "transit-friendly" state administrative procedures relative to project monitoring and reporting. • Review funding barriers to good transit service (insufficient funding, color-of-money issues, etc.). • To initiate review of performance and productivity requirements to assess equity and usefulness (e.g., fare box return ratio, etc.). • Establish peer review of recommendations. Set up advisory board drawn from: • The Department, • Transit operators and MPOs • Appropriate State and Federal agencies.
Implementation Timeline/Evaluation Period:	Begin immediately; Could require 24 months.
Cost Estimate:	Undetermined. The Department's staff time need to develop objectives and work to review policies.

Recommendation # 12	***Expand, Maintain, & Update Transit Operator Profiles Database***
Description:	Continue to build transit database that was begun during the Statewide Plan study work effort. Work with transit partners to establish procedures to keep database current and develop means of sharing information.
Project Objectives:	• Provide transit data and information clearinghouse for the Department and transit agencies, to use for planning, analysis, comparison and project development purposes. • To help identify service level and frequency gaps between regions. • Assess and evaluate trends over time. • Integration of relevant operational and service-related data into GIS analyses.
Collaborating Partners:	• The Department • Transit operators and MPOs • Rideshare agencies • Other stakeholder agencies (CTA, APTA, etc.)
Implementation Timeline/ Evaluation Period:	Ongoing; Evaluate at the end of 2 years to determine usefulness and accuracy of database.
Estimated Cost:	Undetermined. Will require the Department staff time to develop a process to update database by obtaining data from transit agency sources to input or to facilitate transfer of data files electronically.

Recommendation #13	***Census 2000 GIS Data and Indicators Update***
	Update the existing GIS database and indicators with Census 2000 data (SF 3) upon its release in approximately June 2002.
Project Objectives:	• To provide the most timely and accurate data for the indicators analysis that will assist policy makers and staff with the information needed to make better-informed policy, planning, and resource allocation decisions. • To assist policy makers and professional staff identify areas sensitive to change and to identify the nature of the changes occurring. • To support the establishment of a knowledge management solution that supports the agency's institutional memory and to enhance the Department's reputation for providing timely and accurate data.
Collaborating Partners:	• The Department • Transit operators and MPOs • Public interest organizations
Timeline/Evaluation Period:	Beginning in June 2002; Estimated 45-60 day implementation timeframe; Evaluate at the end of 60 days.
Estimated Cost:	Approximately $15,000.

Recommendation #14	***Develop a Statewide GIS Transit Application***
Description:	Develop interactive statewide GIS transit application (tentatively called "CalTransit GIS") to be used within the Department and shared with transit partners & the public using secure Internet-platform technologies. • To assist policy makers and professional staff make better-informed transit planning and resource allocation decisions. • To provide a visual, analytical, and interactive tool for transit planning, sharing of information, and evaluation of transit projects and investments statewide. • To provide a tool to help identify service and frequency gaps between jurisdictions and transit operators. • To create a statewide transit database as a repository for transit data. • To establish a knowledge management solution to retain institutional memory and disseminate data within the Department and with its transit partners and the public.
Collaborating Partners:	• The Department • Transit operators and MPOs • Other state agencies to promote economic development (Cal Trade and Commerce), livable communities (Department of Health and Human Services), environmental planning (Office of Planning and Research, Housing and Community Development Department, and other agencies as appropriate). • Public interest organizations
Timeline/Evaluation Period:	1. Establish design criteria and specifications including studying comparable applications, technology and hosting solution, and content/database design (months one to three). 2. Establish focus group of target users to input to design criteria and design process (months one to three). 3. Design the application, technology/hosting solution, and content/database design (months four to six). 4. Build the application, deliver, and test (months seven to twelve). 5. Develop and implement a user marketing program (months 7 to 12). 6. Roll out, marketing, and use (months 13 to 24). 7. Evaluate at the end of one year when roll out is due. 8. Evaluate at the end of two years after one year of use to determine
Evaluation:	Evaluate at the end of one year when roll out is due; Evaluate at the end of two years after one year of use to determine effectiveness.
Estimated Cost:	Undetermined.

Recommendation #15	***Internet Distribution of GIS Results***
Description:	Integrate existing GIS results onto the Internet using off the shelf software (e.g., ArcIMS (Internet Map Server). • To enable non-GIS professional the Department and transit operator staff to use the GIS results over their standard web browsers. • To provide the Department and transit operators staff with immediate benefits for establishing a knowledge management solution. • To establish a GIS data sharing and distribution solution for future development.
Collaborating Partners:	• The Department • Transit operators and MPOs • Other state agencies • Public interest organizations
Implementation Timeline/Evaluation Period:	Approximately four months; Ongoing with the following milestones: 1. Establish design criteria and specifications including studying comparable applications and hosting solution (week one to two). 2. Design the web site and hosting solution (week three to four). 3. Build the application (weeks five to nine). 4. Beta test and refine (weeks nine to eleven). 5. Roll out, marketing, and use (week twelve).
Estimated Cost:	

Recommendation #16 (Optional)	***Automated GIS Transit Routing Software Model***
Description:	Develop an automated GIS transit routing software model that can be customized at an affordable cost by mid and small size transit operators to provide transit information directly to users.
Project Objectives:	• To enable a cost-effective solution for mid- and small-size transit operators to customize existing GIS routing technologies that are usually affordable only by large agencies. • To enable transit users in rural and small transit operator districts the benefits that are usually only offered to large agency customers. • To provide a Department sponsored public information access solution.
Collaborating Partners:	• The Department • Transit operators and MPOs • Transit users
Implementation Timeline/Evaluation Period:	
Estimated Cost:	Undetermined (estimate order of magnitude $500,000).

Recommendation #17	***Conduct Needed Market Research to Refine Understanding of Target Market***
Description:	Use focus groups and market segmentation survey techniques to define market niches. Preliminary recommendations for four sets of focus groups and survey efforts (three in the urbanized Regional Transit Partnership areas, and one to cover rural areas.) Recommended to get 1,000-market study of 1000-target market sample size, each.
Project Objectives:	• Develop a more effective mix of *product (i.e., transit service) and marketing approaches* that is based on a sharply focused understanding of differentiated customer needs, values and likely behaviors. • Use market knowledge to allocate scarce resources. • Use market knowledge in short- and long-term planning, analysis and project development.
Collaborating Partners:	• The Department • Transit Operators and MPOs • CTA • Transit riders
Timeline/Evaluation Period:	results; Evaluation of results obtained based upon the usefulness and practical application of information and insights gained.

Recommendation #18	***Conduct Regional Origin and Destination Studies***
Description:	Develop plans to begin conducting regional origin and destination studies on a periodic basis sufficient to keep pace with changing customer travel behavior and service needs. The Department to take the lead in coordinating with MPOs, RTPAs and regional transit providers to review existing data to ascertain its value for planning purposes, and to formulate collective strategies to begin collecting, updating, maintaining and integrating data into the statewide database.
Project Objectives:	• To create an information base that provides the Department and its transit partners with information on regional travel patterns and behavior critical to development of new services and making needed adjustments and modifications to existing transit service.
Collaborating Partners:	• The Department • MPOs and RTPAs • Transit operators
Timeline/Evaluation Period:	Regional O&D studies could be conducted as frequently as every three years, but are generally cost prohibitive. However, in order to keep pace with growth and changes in travel behavior, should be conducted at least every five years.
Estimated Costs:	Undetermined. Costs would depend upon size and scope of the work effort at the regional level.

Recommendation #19	***Create Template for Basic Transit System Map***
	Create a map template that could be used by any operator as a general guide to developing a system map of their services. The template would be designed with the customer in mind, with an easy-to- read understandable format for persons desiring to ride transit wherever they might be.
Project Objectives:	• Provide all agencies with foundation to create accurate, user-friendly system maps more affordably. • Establish a standard of simplicity and clarity relative to printed transit informational materials that crosses jurisdictions. • Make reading a system map easier for customers and potential customers. • Potential integration with GIS Internet.
Collaborating Partners:	• The Department • Transit operators and MPOs • Transit riders
Implementation Timeline/Evaluation Period:	Immediate implementation, following adequate planning; Test through peer review process and focus groups before producing demonstrations.

Recommendation #20	***Develop Statewide Off-the-Shelf Multi Media Marketing Program***
Description:	Focus marketing efforts toward the creation and development of generic "off-the-shelf" programs for suburban and rural systems. A general campaign aimed at shattering the negative image of transit while building community support for transit. (For example, a statewide freeway billboard program as effective as "Got Milk?"). The Department should take the lead role in creating a program that combines a number of marketing and advertising strategies which could include: • Develop creative and bold statewide image and/or regional themes based on market segment study findings. • Promotions designed to attract Recruits, Occasionals, and Regulars. Match the campaign to the specific values of each group, as identified in market segmentation study. Identify one or two key levers that will motivate Recruits, Occasionals and Regulars. Emphasize the similarities between public transit and Recruits, Occasionals, and Regulars. • Produce a variety of print, radio, billboard and television promotional spots. • Assist transit operators in media purchase plans, thus ensuring adequate coverage and sufficient exposure to be effective.
Project Objectives:	• To reposition transit as a desirable commodity for reasons which appeal to consumer needs and values. • To build a new brand identity for public transportation—i.e., to redeem public space; to remove the stigma of "second rate" that is associated with "mass" transit or government products and services. • To be as persuasive and clever as automobile advertising. • To enhance opportunities for free promotion by local TV/radio, a la "Rideshare Thursday".
Collaborating Partners:	• The Department's DMT and Districts • Transit operators and MPOs • Creative talent (to rival auto industry resources)
Implementation Timeline/Evaluation Period:	Within six months after completion of market segmentation survey with the following milestones: 1. Conduct pre-test with focus groups and sample markets 2. Formulate appropriate baseline 3. Include "call to action" that can be measured 4. "Aided awareness" test 5. Before/after showing attitudes (survey effort)
Cost Estimate:	Undetermined.

Recommendation #21	***Develop Transit Phone- & Web-Links to Provide One-Stop Shopping for All Transit Information***
Description:	Inventory existing web-based and telephone-based regional traveler information systems. Identify areas of problematic performance. Optimize and expand high-performance models. Determine the most efficient and cost effective method of combining these links under a single access point for telephone or internet users.
Project Objectives:	• To offer a more coordinated approach to providing transit information by utilizing telecommunications approaches (similar to 1-800-COMMUTE in Southern California) and web materials, such as trip itinerary planning programs, to attract choice riders. • Facilitate the potential development of a statewide interactive internet-based system. • Create user-friendly transit information access. • Leverage the system into a marketing tool.
Collaborating Partners:	• The Department's DMT and Districts • Transit operators and MPOs
Implementation Timeline/Evaluation Period:	of the value of the implemented transit information systems after the first year.
Estimated Cost:	assess feasibility and need.

Recommendation #22	***Develop Training Program for Bus Buddy Implementation***
Description:	Develop and fund bus ambassador programs (one-on-one "bus buddy" introductions to transit) especially for students, seniors and individuals identified as "Recruits" in the telephone survey conducted as a part of this study. These types of programs provide a face-to-face introduction to riding transit, which includes an actual transit trip and distribution of route, fare and schedule information to participants. Conceivably, transit operators could form "bus buddy teams" comprised of community relations and/or marketing and transportation department personnel to educate and escort potential new rider groups on trips to pre-arranged destinations. Some rural operators already have these types of programs in place. The Department can work to leverage existing activities in these areas through funding and other types of technical support.
Project Objectives:	• To familiarize the public with accessing and riding on public transportation. • To build good will and support for the local transit system. • Opportunity to enhance the image of transit and the available services.
Collaborating Partners:	• The Department's DMT and the districts • Transit operators
Implementation Timeline/Evaluation Period:	programs to assess viability and start-up issues. Commence new programs under the Call for Projects or using other funding sources. Undetermined.

Recommendation #23	***Create School Transit Education Program***
Description:	Create fun and informative teaching modules for various grade levels. These modules would be developed for the purpose of educating students in grades (K-12) about public transportation choices and opportunities. The teaching curriculum could include true cost of auto ownership; critique of vehicle advertising; environmental ideas; cost and benefits for individuals and society. The Department could compile teaching plans already available; improve and update, and work with schools to implement transit-related themes and emphasis. A component of the program could include taking a cool, colorful shrink-wrapped bus out to schools and teaching kids how to ride the bus.
Project Objectives:	• To develop non-automobile "mode loyalty" or at least mode neutrality/familiarity. • To help young consumers develop powers of critical thinking relative to claims made by car ads.
Collaborating Partners:	• Transit Operators • State Department of Education • Professional curriculum developers
Implementation Timeline/Evaluation Period:	18 - 24 month implementation timeline; Peer review for curriculum. Before/after attitude and awareness tests for students; Mode change data for older students.
Estimated Costs:	

Recommendation #24	***Develop Senior Education and Outreach Program***
Description:	Develop proactive education and outreach program specifically for seniors who can use regular (fixed-route and rail) transit services. The Department and its transit partners can develop communication and service-related strategies aimed at increasing transit use by the senior community. These strategies could include: • Special community events "introducing" transit to seniors in the community, including free introductory rides • Creation of personalized transit itineraries and maps to destinations frequented by seniors
Project Objectives:	• To achieve greater success at attracting this growing rider group to transit • To develop tools and strategies that will assist transit operators in responding to the needs of seniors
	• Transit Operators • Seniors • Community groups
Timeline/Evaluation Period:	9-12 month timeline to develop regional strategies and approaches. Success will be measured by operator commitment and actions.
Estimated Costs:	Undetermined.

Appendix A

TABLE A-1

Summary of Document Collection Results for Transit Marketing and Market Research

Transit Property/Jurisdiction	Documents Reviewed	Surveys (All Categories)
NORTHERN CALIFORNIA		
1. Amador Regional Transit System (ARTS), Jackson, CA (RURAL)	Transit Marketing Plan, Final Report (June 1999) Amador County Transportation Commission FY 1996-97 Amador County Transit Development Plan	Most recent on-board survey was conducted in May 99; prior to that in 1985; Boarding counts and telephone survey taken in 96/97; Transportation Needs survey given to clients of various social service agencies
2. Calaveras Transit (RURAL)	Marketing Plan (June 2000)	
3. County of Colusa Department of Public Works	Colusa County Transportation commission Specialized Transportation Improvement Study and Updated Action Plan for Social Service Transportation FY 99/00-03/04 (January 25, 2000)	
4. Contra Costa County	County Connection, FY2000 Marketing Plan (May 1999)	No surveys provided; however, they make reference to "quarterly direct mail surveys"
5. Eastern Contra Costa Transit Authority	SRTP FY 95/96-04/05 contains marketing recommendations	
6. El Dorado Transportation Commission (RURAL)	Final Transit Systems Management Report for FY 1998-1999; SRTP (1990) LRTP (1995)	Summaries of Commuter Survey; On-Board Survey and interviews with local officials (reported in 1996 RTP)
7. Cities of Fairfield and Suisun Public Works Department	FY 1994-95-03/04 Short Range Transit Plan (June 1994)	On-board surveys reported in FY 94/95-03/04 SRTP; Surveys focusing on Route 30, 90, 85, 80
8. Golden Gate Bridge, Highway and Transportation District	Marketing Plan FY 1999/2000, July 1999 (GGBHTD Marketing Department)	
9. Lake County/City Area Planning Council (RURAL)	Final Report (September 1995), includes marketing plan	Surveys of fixed- and flex-route passengers, dial-a-ride passengers, and non-riders ((Final Report: April 1998)
10. Lassen County Transportation Commission (RURAL)	Transit Development Plan Study (May 1997)	
11. City of Madera	Fixed-Route Implementation Plan (July 1997) includes marketing strategies	
12. Merced County Transit (RURAL)	"The Bus" SRTP (draft, FY 00/01-04/05	SRTP contains on-board survey data; Dial-a-Ride telephone survey (March 2000)
13. Metropolitan Transportation Commission (MTC)	San Francisco Welfare to Work Transportation Plan, (April 2000); Regional Transportation Marketing Program Evaluation (August 2000)	
14. Modoc County Local Transportation Commission (RURAL)	1996 RTP Letter from Ex. Dir. with suggestions	
15. Nevada County Transportation Commission (RURAL)	Eastern Nevada County Transit Development Plan (June 1997); Western Nevada County Transit Development Plan (Final Version, May 31, 1997) includes Marketing Plan	Truckee Trolley Survey (February 1997)

Transit Property/Jurisdiction	Documents Reviewed	Surveys (All Categories)
16. City of Roseville	Long Range Master Transit Plan; SRTP (May 2000) City of Roseville Short Range Transit Plan	
17. Sacramento Regional Transit District	Regional Transit User Issue Paper; April 2000 Monthly Passenger Report; Draft (9/99) SRTP	1999 On-Board Transit District Survey (June 200 Draft)
18. San Francisco Bay Area Rapid Transit District (BART)	FY 2001 SRTP	BART Customer and Performance Research, Passenger Environment Survey, October-December 1999; 1998 BART Customer Satisfaction Study, Final Report BART Station Profile Final Report (1999)
19. San Joaquin Council of Governments		On-board survey of Altamont Commuter Express (ACE); Altamont Pass Commuter Survey October 2000 Report
20. San Mateo County Transit District (SAMTRANS)		Survey of Riders and non Riders Topline Report (July 1996); Bus/BART Connection Market Survey (April 1997)
21. Santa Cruz Metropolitan Transit District (SCMTD)	1999 Comprehensive Bus Evaluation Final Report (January 2000)	Ride Check Survey
22. Shasta County Regional Transportation Planning Agency (RURAL)	2000/01 Transit Needs Assessment for Shasta County; RTP (December 1998)	
23. Siskiyou County (RURAL)	SRTP (April 1999)	Annual rider survey included in SRTP
24. Tri-County Regional Transportation Planning Agencies (Plumas, Modoc and Lassen counties) (RURAL)	Tri-County Public Transportation Integration Study	
25. Tri Delta Transit	Marketing Plan, April 1999 + Dial a Ride packet, transit schedules, info	
26. County of Tuolumne (RURAL)	Unmet Transit Needs Annual Report (FY 00/01 Findings; June 2000)	
SOUTHERN CALIFORNIA		
27. City of Claremont Community Services Department	Dial-A-Ride report excerpts	Rider survey summary
28. Foothill Transit	FY 2001 Budget Book; Marketing Plan, FY 2001, plus promotional materials	
29. Kings County/ King Area Rural Transit (KART) (RURAL)	Kings County Action Plan 1999 Progress Report for Coordination of Social Service Transportation; 1997 Social Services Transportation Inventory; Transit Development Plan (August 1998)	
30. Los Angeles County Metropolitan Transportation Authority	SRTP (FY 98-02);	Service Planning Market Research Program, Phase I Summary (March 99)
31. Metrolink (Southern California Regional Rail Authority)	Metrolink Corporate Package	
32. Omnitrans (San Bernardino)	SRTP FY 2000-2004 Toolbox (December 1998--unfunded needs)	Attitude and Awareness Study Final Report, on-board for Riders; phone survey for Non-Riders + focus groups (January 1998)
33. Orange County Transportation Authority (OCTA)	OCTA Senior Population Transportation Analysis, Final Report (June 2000)	1998 On-Board Survey Final Report
34. San Diego Association of Governments/Metropolitan Transit Development Board	2020 RTP; Introduction to Citizens Advisory Committee for Transportation; MTS/MTDB FY99-03 SRTP, plus	1995 San Diego Regional Onboard Transit Survey, Volume 1 (Summary); 1998 San Diego Region Public Opinion Concerning

Transit Property/Jurisdiction	Documents Reviewed	Surveys (All Categories)
	FY 00-04 update	Transit Services Volume 1 (Summary); MTDB Market Survey on MTS Holiday Shopping Campaign (February 2000); MTDB Market Survey, Padres Fans Transportation Choices (November 1999)
35. San Diego (various transit agencies)	Informational pamphlets (routes, service, discounts, etc.)	
36. San Luis Obispo Council of Governments (RURAL)	Transit Chapter, RTP; Draft Transit Chapter, 2000 RTP; Long Range Transit Plan; Cuesta Grade Mitigation Plan Update	Transit Survey Results, Route 9 (March 2000)
37. Santa Barbara County Association of Governments	1999 Transit Needs Assessment; 1999 RTP (Adopted September 16, 1999)	
38. Santa Clarita Transit	Frequent Rider Program	Route 35 Passenger Survey & Route Segment Study (May 1999); Route 793/798 Passenger Survey & Route Segment Study (October 1999)
39. Simi Valley Transit	SRTP FY 98/99--02/03	SRTP references 1988 rider surveys, and mentions plans to conduct another survey in 1998-99
40. South Coast Area Transit (SCAT) (western Ventura County)	Public Transit Service Delivery Plan (March 2000)	On-Board Passenger Survey On-Board Ridership and Boarding Count (included in Service Delivery Plan)
41. SunLine Transit Agency	Strategic Plan 1996-2001, plus informational and promotional materials;	SunBus Onboard Survey (Draft, July 1999) SunLine Telephone Survey of SunBus Service Area (Draft) July 1999
42. Ventura County Transportation Commission/Ventura County Transit	Various promotional materials (calendar, schedules, information Brochures) Unmet Transit Needs Findings FY 00/01	Vista On-Board Passenger Surveys Nov/Dec 99

TABLE A-2

Summary of Transit Operator/MPO Survey Documents and Sample Size

Transit Property/Jurisdiction	Survey Description or Document Title	Sample Size (N)
NORTHERN CALIFORNIA	**Riders Surveyed = 52,376 / Non-Riders Surveyed = 4,953**	
Amador Regional Transit System (ARTS) (Jackson, CA)	On-Board Survey, May 13-14, 1999 Targeted Transportation Needs Survey (Social Services Agencies)	Riders N=115 (over one third of daily average ridership) Riders N=277 (11% of all agency clients)
Bay Area Rapid Transit (BART)	BART Station Profile Study (Sept.-Oct. 1998) (Self-administered rider survey)	Riders N = 40,887
El Dorado Transportation Commission	El Dorado Transit On-Board Survey (1989) Employee Commute Survey	Riders N=130 Employee N=437 (includes non-riders)
Fairfield/Suisun Transit	On-board surveys	Riders N = 400 (Fixed route "Flyer" service Riders N = 100 CITYLINK (intercity service)
Lake County/City Area Planning Council	Surveys of Lake Transit Fixed- and Flex-Route Passengers, Dial-A-Ride Passengers, and Non-Riders, Final Report (April 1998)	Riders N = 95 Dial-a-Ride users Riders N = 101 Fixed- and flex-route buses Non-Riders N = 331
Sacramento Regional Transit District	1999 On-Board Transit District Survey (June 2000 Draft Report)	Riders N = 8,300
San Joaquin Council of Governments	Altamont Commuter Express (ACE) Year 2000 On-Board Survey Results Altamont Pass Commuter Survey October 2000 Report	Riders N = 1,192 SMART Bus Riders N = 207 ACE Train Riders N = 497 Non-Riders (Drivers) N = 3,950
San Mateo County Transit District (SAMTRANS)	San Mateo County Transit District Bus/BART Connection Market Survey	Random Digit Dial for Riders and Non-Riders N = 310
	Seniors Surveyed = 203; Non-Specified Commuters Surveyed 746	
Los Angeles County Metropolitan Transportation Authority	Service Planning Market Research Report Phase I (1998)	Riders N = 50,393 Telephone Survey N = 3,487
Omnitrans (San Bernardino)	Attitude and Awareness Study Final Report, on-board for Riders; phone survey for Non-Riders (1997; year 2000 Rider Phone Survey update)	Riders N = 8,390 (1998) Non-Riders N = 853 (1998) Riders N = 594 (year 2000)
Orange County Transportation Authority (OCTA)	1998 On-Board Survey Final Report Senior Transportation Analysis Final Report (June 2000)	Riders N = 19,497 Seniors N (random) = 203
San Diego Association of Governments/Metropolitan Transit Development Board	1995 San Diego Regional On-Board Transit Survey, Volume 1 (Summary) 1998 San Diego Region Public Opinion Concerning Transit Services, Volume 1 (Summary) 2000 TransitWorks Market Segmentation Survey	1995 Riders N = 41,765 1998 Random Digit Dial; N=600 for Metropolitan Transit System; 600 for North County Transit District and 300 for Central Coastal Transit Corridor. N = 746 Commuter Population
South Coast Area Transit (SCAT) (western Ventura Co.)	On-Board Survey, September 18-30, 1999	N= 2,171 weekday riders
SunLine Transit Agency	SunBus On-Board Survey (Draft, July 1999); SunLine Telephone Survey of SunBus Service Area (Draft) July 1999	Riders N = 2,624 Random Dial N = 550 (150 riders, 200 potential riders, 200 non-riders)

Appendix B

Methodological Approach

Questionnaire Design

The project Request for Proposal (RFP) contained a preliminary idea draft of the questionnaire. This idea draft contained fifty-three (53) questions on a range of issues of concern to Caltrans. After evaluating this original idea draft and guided by the existing goals of the study, Fairfax Research developed a first draft of the questionnaire. This first draft was primarily a revised version of the idea draft developed by Caltrans. Subsequently, the questionnaire evolved through a serious of five additional drafts before arriving at a final version. Each of the five additional drafts reflected direction provided by Caltrans and pertinent information acquired from consulting team review and assessment of existing market research in Task 2 of this project. For example, the Task 2 - Review and Assessment of the Existing Market Research - identified an extensive quantity of reliable research on transit users and non-users. Gathering this information obviated the need to replicate known information about transit users.

The consulting team proposed a questionnaire length of 15 minutes. Given the scope of the initial questions posed by Caltrans in the RFP, questionnaires of a shorter duration would have limited the ability of the research, in conjunction with the other elements of the project, to answer these questions. Conversely, questionnaires of longer than a 15-minute duration tax the patience of the respondents, often resulting in the reluctance of respondents to participate in the survey. This has the potential to bias the data with an unrepresentative sample. Even a survey length of 15-minutes necessarily limited the number of questions asked of the respondents. Therefore, the questionnaire development process required the prioritization of questions, which resulted in the deletion of low priority or less important questions, culminating in the final version of the questionnaire used in the telephone interviewing (Appendix C).

The final version of the questionnaire consists of an introduction, qualifying questions, and 69 substantive questions, which are a combination of pre-coded scaled questions, categorical questions, open-end questions, and demographic questions. Fairfax Research grouped the questions into five subject areas: Commute behavior, impact of factors on travel behavior, awareness of transit services, preferences, and demographic questions. Following review and approval by Caltrans, a professional translator translated the questionnaire into Spanish.

Questionnaire Programming

Following the finalization of the questionnaire, Fairfax Research programmed the final version of the questionnaire for computer-assisted telephone interviewing (CATI). An interactive PC-based software, CATI displays the question wording on a computer screen for the interviewer to read to the respondent. The interviewer enters each response directly into the computer via the computer's keyboard. CATI programs accept both alpha and numeric responses. The CATI program manages the logic of the questionnaire, determining which question the interviewer asks the respondent.

Sample Design

The survey population consisted of California residents who were 18 years of age or older and who commuted to work. After greeting the potential respondent and identifying themselves, the professional telephone interviewers used the following questions to identify the appropriate respondent in each household. The interviewers first established the age of the respondent (Question A below), including only individuals 18 years of age of older. If they could not speak with an individual in the household who was at least 18 years of age, then the interview was politely concluded.

A. Are you 18 or older? (IF "NO," ASK:) May I please speak with someone in your household who is 18 or older?

1. Yes (ASK Q. 1)
2. No (THANK AND TERMINATE)
3. (Don't Know/Refused) (THANK AND TERMINATE)

After determining the age eligibility of the respondent, the interviewers then asked them about the types of trips they make each day (Question 1 below), e.g., do they commute to work, commute to school, a combination of both, or do they not make a commute. The interviewer continued the interview only with those individuals who commuted to work or who commuted to work and school.

1. First, I'd like to ask you about the types of local trips that you make each day. Do you usually?

    1. Commute to work (CONTINUE)
2. Commute to school (ASK: May I speak to someone in your household who commutes to work?)
    3. Both (CONTINUE)
    4. Don't commute (ASK: May I speak to someone in your household who commutes to work?)

Fairfax Research purchased a Random Digit (RDD) sample for the study. A computer generates the RDD sample from a database of *working blocks* in California. A block consists of 100 contiguous telephone numbers identified by the first two digits of the last four digits of a telephone number. For example, in the telephone number 923-5347, "53" is the block. A working block contains one or more listed telephone numbers in that block. The computer program assigns each exchange, the first three digits of a telephone number, to a single county.

The computer generates the sample using a stratified random sampling procedure. A stratified random sample divides the population of sampling units into subpopulation called strata. The computer algorithm selects a separate sample from the sampling units in each stratum. Fairfax Research used California Counties to stratify this sample.

The study consisted of three thousand, three hundred and two (3,302) telephone interviews. After discussing the merits of different sampling approaches to achieve the objectives of the study, the consulting team elected to stratify the 3,302 interviews throughout the state based on the number of households per county. To achieve this, Fairfax Research identified the number of households

in each county using Census data. Fairfax Research divided the number of households in each county by the total number of households in the state to develop a proportion of the total number of interviews for each county. For example, according to the U.S. Census, Contra Costa County contains 333,800 households. California contains 11,307,700 households. Using the number of households in Contra Costa County as the numerator and the number of households in California as the denominator yields a proportion of 2.9519708%.

$$\frac{333{,}8000}{11{,}307{,}700} = 0.029519708$$

Contra Costa County contains 2.9519708% of all households in California. Multiplying 3,302 (the total number of interviews) by 2.9519708% resulted in 97 interviews assigned to Contra Costa County.

$$3{,}302 \times 2.9519708\% = 97$$

The computer algorithm used for this sample distributes the telephone numbers across all eligible blocks in proportion to their density of listed telephone households. The algorithm organizes all blocks within a county in ascending order by area code, exchange, and block number. After determining a quota (number of completed interviews) for each county in California (see the example above for Contra Costa County), the algorithm calculates a sampling interval by summing the number of listed residential numbers in each eligible block within the county and dividing that sum by the number of sampling points assigned to the county. From a random start between zero and the sampling interval, the computer systematically selects blocks in proportion to their density of listed households (See Table B-1 for a complete list of quotas by county). After selecting a block for inclusion in the sample, the computer algorithm appends a two-digit random number in the range 00 to 99 to the exchange and block to form a 10-digit telephone number.

This process eliminates problems resulting from unpublished telephone numbers. Phone books fail to represent the important population of people with unlisted phone numbers; that is, those people who do not allow the telephone company to publish their telephone number. Approximately 50% of California households do not allow the telephone companies to publish their telephone numbers. This process provided a representative sample of the entire state. Table B-1 lists the sample distribution arrived at through this process.

Table B-1: Sample Distribution by County

Alameda	149	Kings	10	Placer	24	Sierra	0
Alpine	0	Lake	7	Plumas	2	Siskiyou	5
Amador	3	Lassen	4	Riverside	141	Solano	36
Butte	23	Los Angeles	918	Sacramento	126	Sonoma	49
Calaveras	4	Madera	10	San Benito	4	Stanislaus	40
Colusa	2	Marin	28	San Bernardino	150	Sutter	8
Contra Costa	97	Mariposa	2	San Diego	280	Tehama	6
Del Norte	3	Mendocino	10	San Francisco	97	Trinity	2
El Dorado	17	Merced	18	San Joaquin	51	Tulare	32
Fresno	75	Modoc	1	San Luis Obispo	26	Tuolumne	6
Glenn	3	Mono	1	San Mateo	76	Ventura	68
Humboldt	15	Monterey	35	Santa Barbara	41	Yolo	16
Imperial	12	Napa	13	Santa Clara	166	Yuba	6
Inyo	2	Nevada	10	Santa Cruz	26		
Kern	61	Orange	262	Shasta	18		

By definition, samples represent the larger population or universe of interest. All sample surveys are subject to sampling error; that is, the extent to which the results may differ if Fairfax Research conducted a complete census of the opinions of every eligible individual in the sample area. The size of the potential error depends on the percentage distributions (i.e., the number of respondents selecting each answer category) and the number of interviews. The more disproportionate the percentage distributions or the larger the sample size, the smaller the probability of error resulting from a sample.

A sample size of 3,302 has a confidence interval estimate of $\pm$ 1.7 percentage points at the 95% confidence level assuming conservative 50/50 response proportions. Smaller subgroups of the population, e.g. age groups, income segments, have larger confidence intervals. Table B-2 displays the sampling errors for different sample sizes and proportions. The percentages indicate the range (plus or minus the figure shown) within which the results may vary 95 times out of 100 for each sample size.

Table B-2:
Sampling Error
(Percentage Points)

Sample Size	Percentage Distribution				
	50/50	60/40	70/30	80/20	90/10
3,300	1.7	1.7	1.6	1.4	1.0
3,000	1.8	1.8	1.6	1.4	1.1
2,000	2.2	2.1	2.0	1.8	1.3
1,000	3.1	3.0	2.8	2.5	1.9
800	3.5	3.4	3.2	2.8	2.1
600	4.0	3.9	3.7	3.2	2.4
400	4.9	4.8	4.5	3.9	2.9
200	6.9	6.8	6.4	5.5	4.2

For example, assume 1,000 people responded to a particular question. In their responses, 60% said answer 1 and 40% said answer 2. In Table B-2, the cell representing 1,000 interviews and responses of 60% and 40% has a confidence interval of 3.0 percentage points. Therefore, 95 times out of 100, the average of repeated samples (conducting a complete census) would be somewhere between 57% and 63% for response 1, with 60% the most likely or probable result.

Data Collection

A professional call center with extensive experience interviewing diverse respondent populations completed the actual interviews. The use of a centralized facility allows full monitoring of the interviewing process. The call center trains each interviewer in standardized interviewing techniques to ensure uniform interviewing standards. Fairfax Research briefed the interviewers selected to conduct the interviews on the specific nuances of this project. The telephone center maintained an average ratio of one supervisor to ten interviewers throughout the interviewing process. These supervisors monitored at least 15 percent of the interviews. These quality control procedures maximized the accuracy of the interviewing.

Before conducting the actual telephone interviews, Fairfax Research conducted a test of the questionnaire. This "pretesting" of the questionnaire helped ascertain:

- The clarity, viability, and impartiality of the questions;
- Potential question order problems;
- Questions that yield the wrong information due to misinterpretation and validity problems; and,
- The overall efficacy of the survey instrument.

On February 25, 2001, the call center called and conducted interviews with a random sample of 36 individuals. The interviews averaged 11 minutes and 49 seconds in length. The results of the pretest indicated that the questionnaire met the criteria for the project. However, in conducting the pretest, the consulting team discovered that it flowed faster than the target length of 15 minutes. This allowed the addition of questions including:

- The specific types of stops made by the respondent on the way to or from work (e.g., shopping, etc.);
- A battery of attributes designed to assess perceptions of public transit (e.g., flexible, clean, etc.); and,
- The type of structure in which the respondent resides (e.g., single-detached, single-attached, etc.).

Following the pretest and final revisions to the questionnaire, the call center completed the 3,302 interviews. They conducted the interviews between April 5 and 24, 2001 on weekday evenings and weekends. Because of differences in lifestyle-driven schedules and the difficulty of reaching all people within a given time of day or day of the week, the interviewers called each number up to three times. To ensure the accuracy and validity of the sample, the callbacks occurred on different days of the week and at different times of the day.

The CATI software contained a sample manager. The sample manager program monitored the sample and the disposition of each number. This ensured each telephone number in the sample universe an equal probability of selection.

The interviewers conducted only one interview per household. The actual interviews lasted an average of 14 minutes and 41 seconds. The call center conducted 3,167 interviews in English and 135 interviews in Spanish.

Data Coding

After the completion of the data collection, Fairfax Research reviewed one-third of the verbatim responses to the open-end question: "People have different reasons for not using public transportation. Why don't you use public transportation more often?" The code development process involves the actual reading of the verbatim answer and then the developing of classifications or codes of similar responses. This process resulted in the code categories found in Table B-3.

Table B-3:
Codes: Why don't you use public transportation more often?

1. Routes Inconvenient / No Routes Near Destination / No Direct Routes
2. Transit Service Unavailable / No Access to Public Transportation
3. Bus Stops / Stations Too Far Away
4. Schedules Inconvenient / Not Flexible Enough / Doesn't Fit Schedule
5. Schedule Varies / No Consistent Commuting Schedule / Irregular Work Hours
6. Inconvenient in an Emergency
7. Inconvenient / Not Practical-General
8. Takes Too Long / Travel Time Longer
9. Don't Like to Wait / Long Wait Time
10. Too Many Stops / Don't Like Transfers / No Express Service / Requires Connectivity
11. Unreliable / Runs Late / Concerned About Arriving on Time
12. Transport Children to School / Day Care
13. Need Car During the Day / Need More Flexibility / Run Errands
14. Want Control / Don't Like to Depend on Others
15. Prefer to Walk / Ride Bike
16. Prefer Freedom / Convenience of Own Vehicle / Easier to Take Car
17. Have a Car / Prefer My Car / Like to Drive Car-General
18. Need Vehicle for Work
19. Transport Tools / Equipment / Supplies
20. Have Company Car / Work Pays for Car
21. Close To Work / Destination / Isn't Necessary / Live in Small Town
22. Prefer Privacy / Lack of Privacy
23. Don't Like People Who Use It / No Affinity with Users
24. Not Safe
25. Not Clean / Uncomfortable
26. Crowded / Noisy
27. Expensive / Cost
28. Weather Issues
29. Don't Like It / Never Used It / Not Interested / Don't Need It

30. Don't Know How to Use It / Don't Know Much About It / Need More Information
31. Currently Use Public Transportation
32. Not Frequent Enough
33. Not Late Enough / Not Early Enough
98. Other
99. Don't Know / No Reason

Following the development and approval of the code, Fairfax Research read each verbatim response and classified it into one or more of the most appropriate code categories. This process facilitated the quantifying of the verbatim responses for analysis.

Data Processing

After coding of the verbatim responses to the open-end question, Fairfax Research cleaned and tabulated the data. The process of cross tabulating the data allowed response comparisons by mode of transportation used, income level, ethnicity, education level, gender, etc. The crosstabulation analysis used commute behavior questions and the following demographic and geographic subgroups.

Q.54 Marital Status
- Married
- Widowed
- Divorced/Separated
- Never Married

Q.55 Household Size
- One
- Two
- Three
- Four or more

Q.56 Number of Children Under Age 16
- None
- One
- Two
- Three or more

Q.57 Number of Licensed Drivers in the Household
- None
- One
- Two
- Three or more

Q.58 Number of Vehicles in the Household
- None
- One
- Two
- Three or more

Q.59 Education
- Some High School/High School Degree
- Some College
- College Degree/Postgraduate Degree

Q.60 Age
- 18-to-39 years old
- 40-to-64 years old
- 65 years old or older

Q.64 Occupation
- Managerial/Professional
- Technical/Sales/Administrative Support
- Service
- Farming/Forestry/Fishing
- Precision Production/Craft/Repair
- Operators/Fabricators/Laborers

Q.66 Type of Building Live In
- Single Family Detached
- Single Family Attached
- Multiple Units
- Mobile Home

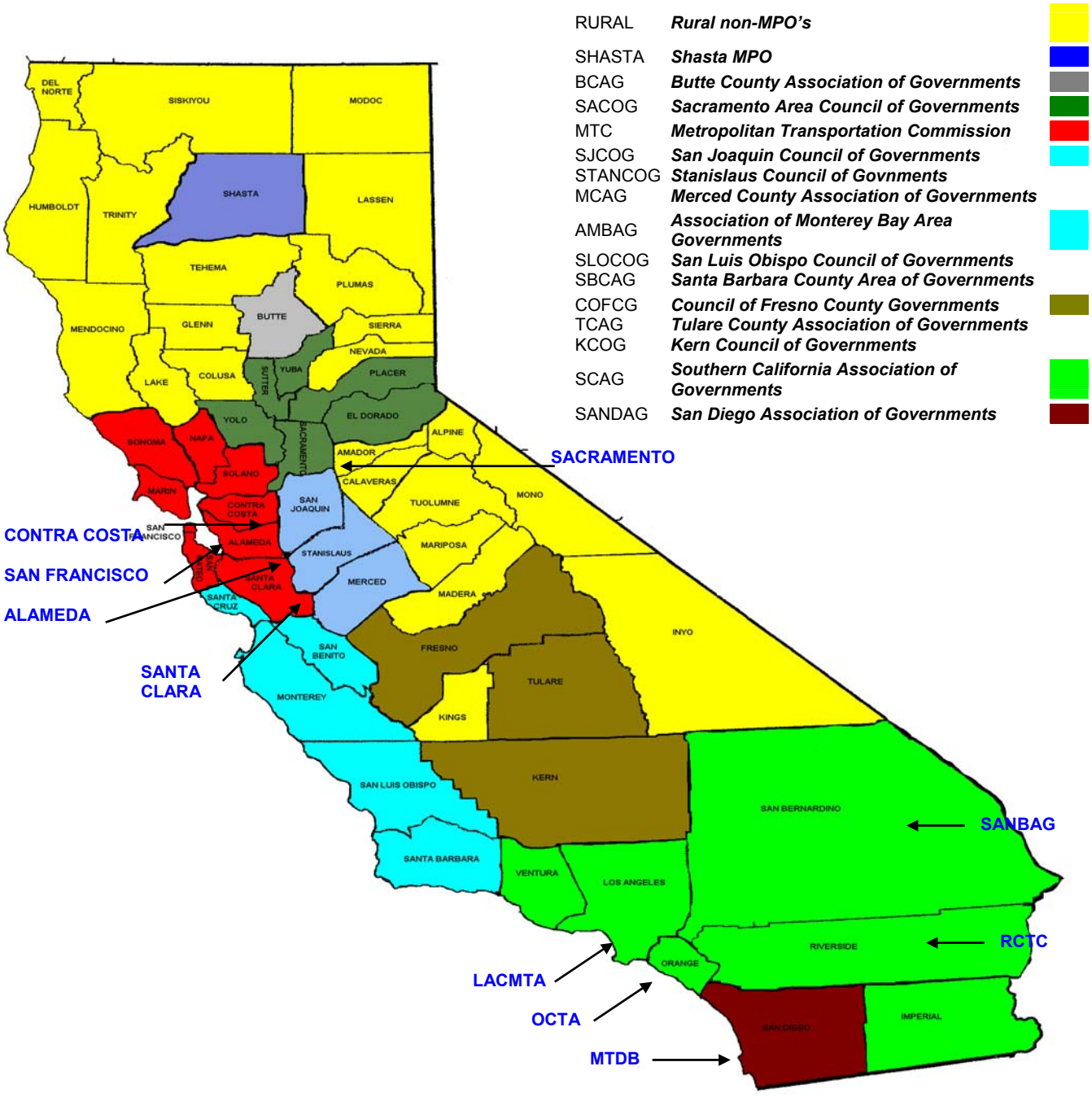
Q.67 Ethnicity
- Asian/Indian American
- Black/African American
- Hispanic
- White

Q.68 Annual Income
- Less than $30,000 a year
- $30,000-to-$60,000 year
- More than $60,000 a year

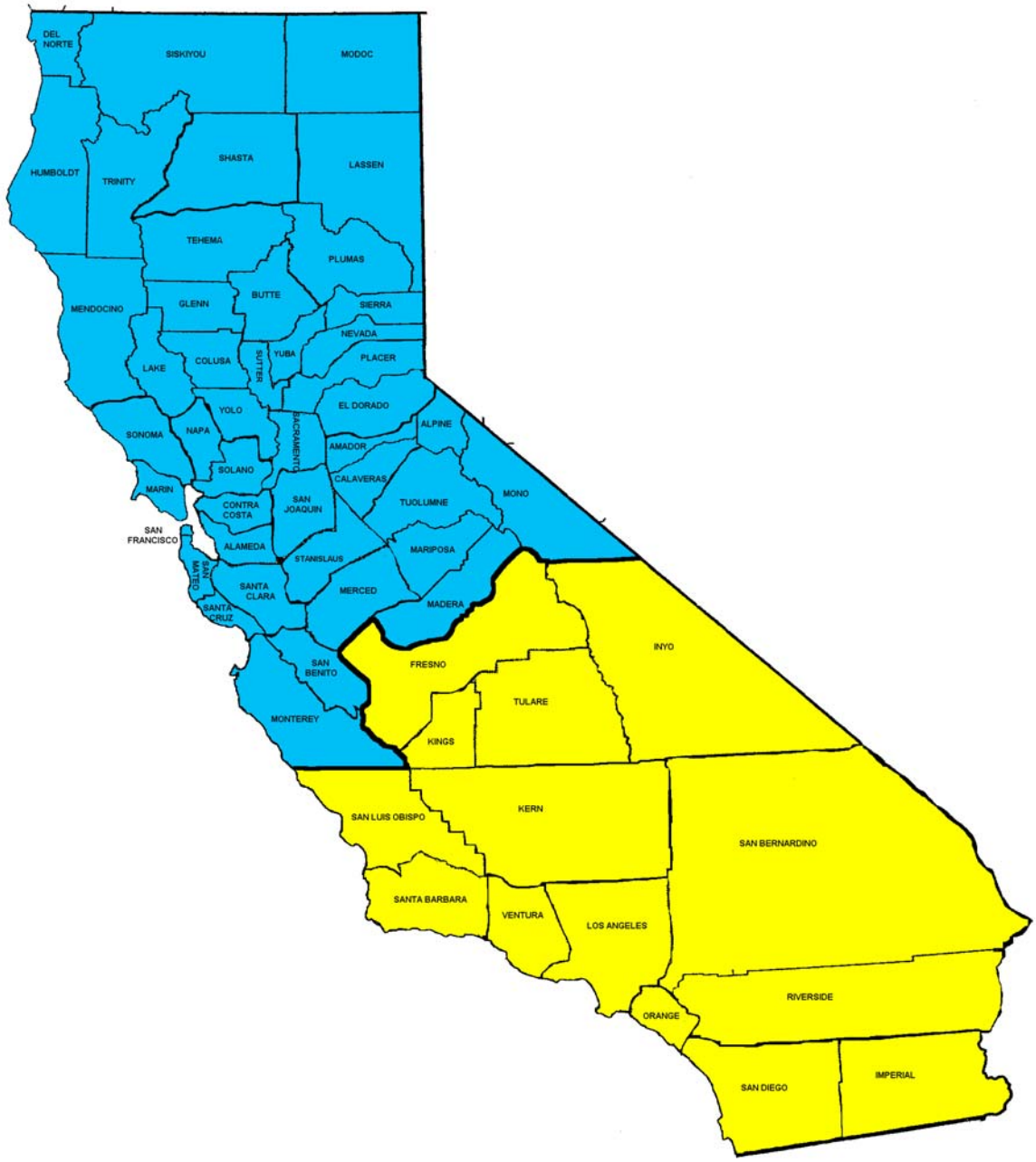
Q.70 Gender
- Men
- Women

Fairfax Research also analyzed the data by cross tabulating the questions in the survey by Metropolitan Planning Organizations (MPO's) and Regional Transportation Planning Agencies (RTPA's). Map B-1 displays the MPO's (Small sample sizes necessitated combining several MPO's) and Map B-2 displays a North-South split of the data by county.

Map B-1:
Metropolitan Planning Organizations (MPO's)
and Regional Transportation Planning Agencies (RTPA's)



Map B-2:
North - South



In the analytical process, Fairfax Research used frequency distributions, means, and cross tabulation tables. Fairfax Research utilized the software packages SPSS, Answer Tree, and Wincross to run and review thousands of cross tabulation tables, means comparisons, regression analysis, factor analysis, and cluster analysis looking for significant or relevant findings. In analyzing the data, Fairfax Research looked for statistically significant differences at the 95% level in proportions and means.

As Table B-2 indicates, the sampling error increases as the sample size decreases. This means less reliable results with small subgroup sample sizes. Occasionally a small sample size for a particular subgroup precludes any reliable analysis. Fairfax Research generally avoided analyzing subgroups containing fewer than 100 respondents.

Chapter 3 contains the significant findings from the telephone survey organized into the following sections.

Commute Behavior: Presents different characteristics of the respondents' commute behavior including the transportation modes used by the respondents, the types of commutes they make, the length of their commutes, and the time of day of their commutes.

Mode Choice Criteria: Addresses the factors that influence the transportation mode choice the respondents used for their commutes.

Perceptions of Public Transportation: Explores the respondents' perception of public transportation.

Transit Awareness: Assesses the respondents' access to and awareness of public transportation.

Transit Usage: Discusses the respondents' reasons for not using public transit and their likelihood of increasing usage of public transit in the future.

Conclusion: Assesses the potential target markets for increasing transit ridership and addresses the questions posed by Caltrans.

APPENDIX C

Questionnaire

Hello, I'm [**NAME OF INTERVIEWER**] of Fairfax Research, a national research firm. We're conducting a survey today on commuting habits and transportation issues. Let me assure you that I am not selling anything.

[**IF THEY ASK THE QUESTIONNAIRE LENGTH, SAY:**] The survey will only take about fifteen minutes of your time.

1. Are you 18 or older? (**IF "NO," ASK:**) May I please speak with someone in your household who is 18 or older?

    1. Yes (**ASK Q. 1**)
    2. No (**THANK AND TERMINATE**)
    3. (Don't Know/Refused) (**THANK AND TERMINATE**)

---

1. First, I'd like to ask you about the types of local trips that you make each day. Do you usually …?

    1. Commute to work (CONTINUE)

2. Commute to school (ASK: May I speak to someone in your household who commutes to work?)

    3. Both (VOLUNTEERED)(CONTINUE)

    4. Don't commute (ASK: May I speak to someone in your household who commutes to work?)

---

2. Which of the following types of transportation do you use for your commute to work? (**READ CHOICES. ACCEPT MORE THAN ONE ANSWER.**)

    1. A car, truck or van (**ASK Q.3**)
    2. Bus or trolley bus (**SKIP TO Q.4**)
    3. Streetcar or trolley car (**SKIP TO Q.4**)
    4. Subway (**SKIP TO Q.4**)
    5. Railroad (**SKIP TO Q.4**)
    6. Ferryboat (**SKIP TO Q.4**)
    7. Taxicab (**SKIP TO Q.4**)
    8. Motorcycle (**SKIP TO Q.4**)
    9. Bicycle (**SKIP TO Q.4**)
    10. Walk (**SKIP TO Q.4**)
    11. Or something else (**SPECIFY**) (**SKIP TO Q.4**)

IF RESPONSE "1," IN Q.2, ASK Q.3:

3. How many people, including you, usually ride to work in the car, truck, or van?

    1. Drive alone
    2. 2 people
    3. 3 people
    4. 4 people
    5. 5 or 6 people
    6. 7 or more people

---

4. On average, how many days a week do you typically commute to work?

    1. Less than one day a week
    2. 1 Day
    3. 2 Days
    4. 3 Days
    5. 4 Days
    6. 5 Days
    7. 6 Days
    8. 7 Days

Of the [**ANSWER IN Q.4**] a week you commute, how many days do you use …

5.	A car, truck or van (**IF 1 IN Q.2)**	
6.	A bus or trolley bus (**IF 2 IN Q.2)**	
7.	A streetcar or trolley car (**IF 3 IN Q.2)**	
8.	A subway (**IF 4 IN Q.2)**	
9.	A railroad (**IF 5 IN Q.2)**	
10.	A ferryboat (**IF 6 IN Q.2)**	
11.	A taxicab (**IF 7 IN Q.2)**	
12.	A motorcycle (**IF 8 IN Q.2)**	
13.	A bicycle (**IF 9 IN Q.2)**	
14.	Walk (**IF 10 IN Q.2)**	

---

15. Approximately what time do you usually leave your home to go to work? (**CONFIRM**) Is that am or pm?

	AM
	PM

---

16. About how many minutes does it usually take you to get from home to work? (**CONVERT HOURS TO MINUTES**)

			Minutes

17. Which of the following best describes your commute? (**READ CHOICES**)

    1. Within downtown
    2. Within suburb
    3. Within rural area
    4. From downtown to suburb
    5. From suburb to downtown
    6. From one city to another city
    7. From rural to suburb
    8. From rural to downtown

18. Approximately what time do you usually leave work to go home? (**CONFIRM**) Is that am or pm?

	AM
	PM

19. About how many minutes does it usually take you to get from work to home? (**CONVERT HOURS TO MINUTES**)

			Minutes

IF "CAR, TRUCK, OR VAN" IN Q.2, ASK QS.20-23:

20. How many times **DURING** the workday do you use your personal vehicle for activities other than driving to or from work? (**READ CHOICES**)

    1. Never
    2. Less than once a day
    3. Once a day
    4. Twice a day
    5. 3 times a day
    6. 4 times a day
    7. 5 or more times a day

21. How many times on the way to work or school or on the way home from work or school do you use your personal vehicle to run errands, drop-off or pick-up children from daycare, go out to eat, or some other personal activity? (**READ CHOICES**)

    1. Never (SKIP TO Q.24)
    2. Less than once a day (ASK Q.22)
    3. Once a day (ASK Q.22)
    4. Twice a day (ASK Q.22)
    5. 3 times a day (ASK Q.22)
    6. 4 times a day (ASK Q.22)
    7. 5 or more times a day (ASK Q.22)

IF ANY RESPONSES 2-7 IN Q.21, ASK QS.22-23:

22. Which of the following types of stops do you make on the way to or from work or school? (**ROTATE. ACCEPT MORE THAN ONE ANSWER.**)

1. Daycare or school for children
2. Shopping
3. Going out/Entertainment
4. Going to the doctor or dentist
5. Visiting a friend or relative
6. Errands/Personal business
7. Other (**SPECIFY**)

23. Thinking about the stops you make on the way to or from work or school, would you say that … these are REQUIRED stops that you MUST make … or … these are OPTIONAL stops that you choose to make?

1. Required/Must make
2. Optional/Choose to make
3. Both (VOLUNTEERED)

I am going to read you a list of factors people take into consideration when deciding whether to drive their own vehicle or use some other means of transportation. Some of these factors are very important to people while others are not important at all to them. As I read you each one, please think of a scale running from "1" to "7," where "1" means that factor is NOT AT ALL IMPORTANT to you and "7" means that factor is VERY IMPORTANT to you. Please tell me how important each one is to you. You can use any number from 1 to 7.

How important is [ROTATE INSERTING STATEMENTS]?

		Not Important						Very Important
24.	**The cost of parking.**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
25.	**The traffic congestion.**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
26.	**The cost of driving.**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
27.	**Reliable arrival time at your destination.**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
28.	**The availability of parking.**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
29.	**Convenience.**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
30.	**The availability of transportation once at your destination.**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
31.	**Travel time.**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
32.	**Privacy.**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
33.	**The appearance and cleanliness of the vehicle.**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
34.	**Personal safety.**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
35.	**Flexibility.**	**1**	**2**	**3**	**4**	**5**	**6**	**7**

36. And which TWO of these do you consider the MOST IMPORTANT when deciding whether to drive your own vehicle or use some other means of transportation**. (ROTATE READING LIST. ACCEPT TWO ANSWERS.)**

1. The cost of parking.
2. The traffic congestion.
3. The cost of driving.
4. Reliable arrival time at your destination.
5. The availability of parking.
6. Convenience.

7. The availability of transportation once at your destination.
8. Travel time.
9. Privacy.
10. Appearance and cleanliness of the vehicle.
11. Personal safety.
12. Flexibility.

Now I'd like to talk with you about public transportation. By public transportation I mean a form of transportation like the bus, train, trolley, subway, or ferry where you pay for the ride.

37. Do you have what you would consider convenient access to public transportation near your home?

1. Yes
2. No

38. Do you have what you would consider convenient access to public transportation near your work?

1. Yes
2. No

Would you say you know a lot … a little … or almost nothing at all about … (**ROTATE**)?

		Lot	Little	Nothing
39.	The public transportation routes in your area?	1	2	3
40.	The public transportation fares in your area?	1	2	3
41.	The public transportation schedules in your area?	1	2	3

42. People have different reasons for not using public transportation. Why don't you use public transportation more often? (PROBE) Why else don't you use public transportation more often?

[RECORD 1ST VERBATIM RESPONSE]
[RECORD 2ND VERBATIM RESPONSE]
[RECORD 3RD VERBATIM RESPONSE]

I am going to read you a list of phrases. For each one I read you, please use a scale from "1" to "7," where "1" means that you think it DEFINITELY DOES NOT DESCRIBE public transportation and a "7" means that you think it DEFINITELY DESCRIBES public transportation. You can use any number from 1 to 7. **(ROTATE STATEMENTS)**

		Definitely Not Describe						**Definitely Describe**
43.	**Flexible.**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
44.	**Provides frequent service.**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
45.	**Clean.**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
46.	**Travel time is reasonable.**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
47.	**Convenient.**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
48.	**People who are like me use it.**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
49.	**Inexpensive.**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
50.	**Travel time is reliable.**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
51.	**Safe.**	**1**	**2**	**3**	**4**	**5**	**6**	**7**

52. Which of the following statements best describes your use of public transportation to commute to work? (READ CHOICES)

    1. I would never use public transportation under any circumstances
    2. I would only use public transportation if I had no other transportation
    3. I would consider using public transportation under the right circumstances
    4. I plan to use public transportation in the future
    5. (Don't know/Refused) (DO NOT READ)

53. Again thinking of a scale from "1" to "7," where "1" means VERY UNLIKELY and "7" means VERY LIKELY, how likely are you to INCREASE your use of public transportation to commute to work in the next 12 months? Remember, you can use any number from 1 to 7.

Very Unlikely						**Very Likely**
1	**2**	**3**	**4**	**5**	**6**	**7**

And now I have just a few more questions for statistical purposes.

54. Are you married now and living with your spouse, or are you widowed, divorced, separated, or have you never married?

    1. Now married
    2. Widowed
    3. Divorced
    4. Separated
    5. Never married
    6. (Refused)

55. Including you, how many people live in this household?

    ☐☐

IF 2 OR MORE IN Q.55, ASK Q.56:

56. How many children under the age of 16 live in your household?

    ☐☐

57. How many members of your household have a current drivers license?

    ☐☐

58. Altogether, how many vehicles, including automobiles, vans, trucks, and highway motorcycles are available for use by members of your household?

    ☐☐

59. What is the highest level of schooling you have completed? (**READ CHOICES**)

1. Less than high school
2. High school graduate
3. Some college/Community college/Vocational school
4. College graduate
5. Post-graduate degree
6. (Refused)

60. What is your age, please?

1. 18 to 24 years old
2. 25 to 29 years old
3. 30 to 34 years old
4. 35 to 39 years old
5. 40 to 44 years old
6. 45 to 49 years old
7. 50 to 54 years old
8. 55 to 59 years old
9. 60 to 64 years old
10. 65 to 69 years old
11. 70 to 74 years old
12. 75 or older
13. (Refused)

61. How many members of your household work either full-time or part-time for pay or profit?

☐☐

62. Do you currently work either part-time or full-time for pay of profit, or are you unemployed, retired, a homemaker, or a student?

1. Working now (**ASK Q.63**)
2. Unemployed/Laid off (**SKIP TO Q.66**)
3. Retired (**SKIP TO Q.66**)
4. Permanently disabled (**SKIP TO Q.66**)
5. Homemaker (**SKIP TO Q.66**)
6. Student (**SKIP TO Q.66**)
7. (Refused) (**SKIP TO Q.66**)

IF RESPONSE "1," IN Q.62, ASK QS.63-65:

63. How many jobs do you have?

☐☐

64. What is your main occupation?

[**RECORD VERBATIM RESPONSE**]

65. What is the zip code where you work, please?

66. Do you live in … (**READ CHOICES**)?

1. A single family detached home
2. A single family attached home
3. A multiple unit complex like an apartment or condominium
4. A mobile home or trailer
5. Other (**SPECIFY**)

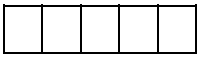
67. Are you of Hispanic, Mexican, or Spanish heritage? (**IF "NO" OR "REFUSED," ASK:**) What is your main ethnic or racial heritage? (**READ CHOICES**)

1. Asian/American, Indian or Pacific Islander
2. Black/African American
3. Hispanic or Latino
4. Native American
5. White/Caucasian
6. Other (**SPECIFY**)
7. (Refused)

68. And what is your total annual family income before taxes? Please stop me when I read the right category. (**READ CATEGORIES**)

1. Less than $10,000
2. $10,000 to $19,999
3. $20,000 to $29,999
4. $30,000 to $39,999
5. $40,000 to $49,999
6. $50,000 to $59,999
7. $60,000 to $69,999
8. Over $70,000
9. (Refused) (**DO NOT READ**)

69. What is the zip code at your home address, please?



70. Sex

1. Male
2. Female

APPENDIX D

TRANSIT OPERATOR SURVEY RESPONSES

1. How many transit routes/lines by service type/category are currently operated, by your agency? *Please indicate number of routes/lines adjacent to the applicable service categories for directly operated or contracted/purchased transportation services.*
Transit Operator/Response(s)
Altamont Commuter Express Authority/ One commuter rail transit route/purchased transportation services
Central Contra Costa Transit Authority/ 21 local circulation routes; 6 commuter express/directly operated/ 2 special event service/shuttles purchased transportation services
City of Santa Maria / 7 local circulation routes / purchased transportation services
Culver City Municipal Bus Lines / 6 local circulation routes/ directly operated
Eastern Contra Costa Transit Authority / 9 local circulation routes and 2 limited stop / purchased transportation services
El Dorado County Transit Authority / 7 local circulation routes; 12 commuter express routes; 2-5 special event routes annually; DAR/ directly operated services
Golden Empire Transit District / 13 local circulation / directly operated 3 local circulation routes plus portions of other routes; 1 limited stop route and 1 commuter express route / purchased transportation
Livermore Amador Valley Transit Authority / 14 local circulation routes; 2 limited stop routes; 3 commuter express routes; 2 special event services/shuttles / purchased transportation
Long Beach Transit / 3 local circulation; 1 limited stop; 32 Other (fixed routes) / directly operated / Water taxi and DAR / purchased transportation
Los Angeles Metropolitan Transportation Authority (MTA) / 128 local circulation (regional and sub-regional); 17 limited stop and 2 Rapid Bus routes / 18 commuter express (with localized segments); 1 special event "Hollywood Bowl"; 2 light rail; 1 subway; / directly operated 20 local circulation (includes rail feeders); 1 commuter express; 1 flexible destination route / purchased transportation services
Merced County Transit "The Bus" / 15 local circulation and DAR / purchased transportation
Omnitrans / 34 local circulation fixed-routes / directly operated 2 commuter express; 1 special event service; DAR and ACCESS / purchased transportation services
Redding Area Bus Authority / unspecified number of local circulation routes operated in cooperation with the cities of Anderson, Redding, Shasta Lake and portions of Shasta County; 1 commuter express route / all purchased transportation services

Riverside Transit Authority (RTA) / 19 local circulation routes / directly operated 17 local circulation routes and DAR/ purchased transportation
Roseville Transit / 10 local circulation routes; 6 commuter express and DAR; special event service on demand / purchased transportation services
San Diego Harbor Excursion / 1 ferry route / directly operated
San Diego Transit Corporation / 24 local circulation ; 2 limited stop; 3 commuter express; 2 special event services / directly operated
San Joaquin Regional Transit District / Stockton Metro 10 local circulation ; 2 Intercity routes; 2 Express; 19 Interregional commuter routes; Interregional commuter/feeder to BART / directly operated 2 local circulation ; DAR and ACE Feeder / purchased transportation services
Santa Clarita Transit / 22 local circulation; 10 commuter express / purchased transportation services
Santa Cruz Metropolitan Transit District/ 16 local urban; 6 rural; 18 urban collector; 17 express to San Jose; 1 special event service/shuttle; 1 Highway;/ directly operated services
SCRRA/Metrolink / 6 commuter rail lines; 4 special event shuttles / directly operated
Siskyou County Transit / 10 local circulation routes; 4 limited stop routes / directly operated
Sonoma County Transit / 10 local circulation routes; 4 commuter express routes; summer shuttle route / purchased transportation services
Unitrans/City of Davis / 12 local circulation routes / directly operated
Victor Valley Transit Authority / 10 local circulation routes ; 2 commuter express (March 2002); ADA paratransit / purchased transportation services
Yuba-Sutter Transit / 5 local circulation routes; 3 commuter express; 3 rural routes; DAR / purchased transportation services
2. What is the average headway on peak period weekday transit services (5:30 a.m. – 9:00 a.m. Monday through Friday) operated by your agency: *(Please check only one box for each mode, as applicable)*
Transit Operator/Response(s)
Altamont Commuter Services / Commuter rail 60+ min avg. headway
Central Contra Costa Transit Authority Bus 20-25 min. avg. headway
City of Santa Maria /Bus 26-30 min. avg. headway
Culver City Municipal Bus Lines / Bus 15-19 min. avg. headway
Eastern Contra Costa Transit Authority / Bus 26-30 min. avg. headway
El Dorado County Transit Authority / Bus under 10 min. avg. headway
Golden Empire Transit District / Bus 15-19 min. avg. headway
Livermore Amador Valley Transit Authority / Bus 15-19 min. avg. headway
Long Beach Transit / Bus 15-19 min. avg. headway
Los Angeles County Metropolitan Transportation Authority / Bus under 10 min. avg. headway; Heavy Rail/Light Rail under 10 min. avg. headway
I. Merced County Transit "The Bus" / Bus 41-59 min. avg. headway
Omnitrans / Bus 35-40 min. avg. headway
Redding Area Bus Authority / Bus 60+ min. avg. headway

Riverside Transit Agency / Bus 60+ min. avg. headway
Roseville Transit / Bus 60+ min. avg. headway
San Diego Harbor Excursion / Ferry 15-19 min. avg. headway
San Diego Transit Corporation / Bus 10-14 min. avg. headway
San Joaquin Regional Transit District / Bus 20-25 min. avg. headway
Santa Clarita Transit / Bus 26-30 min. avg. headway
Santa Cruz Metropolitan Transit District/ Bus 60+ min. avg. headway
SCRRA/Metrolink / Commuter rail 26-30 min. avg. headway
Siskyou County Transit / Bus under 10 min. avg. headway
Sonoma County Transit / Bus local 35-40 min. avg. headway; Bus Intercity 60+ min. avg.
Unitrans/City of Davis / Bus 26-30 min. avg. headway
Victor Valley Transit Authority / Bus 60+ min. avg. headway
Yuba-Sutter Transit / Bus 41-59 min. avg. headway
3. Please provide system information, as available, on the following: **A. Average bus speed (mph)** **B. Average number of transfers per trip** **C. Average walking distance to bus stops** **D. Average/estimated route length by mode:** • **Bus (miles)** • **Rail (miles)** • **Other mode (miles)**
Transit Operator/Response(s)
Altamont Commuter Services / Rail – avg. est. route length: 86 miles / no other data provided
Central Contra Costa Transit Authority 13.3 mph avg. bus speed; Bus avg. est. route length: 15 miles; no other data provided
City of Santa Maria / Avg. walking distance to stops: ¼ mile; Bus avg. est. route length: 8.2 miles; no other data provided
Culver City Municipal Bus Lines / Avg. walking distance to stops: ¼ mile; Bus avg. est. route length: 1.3 miles; no other data provided
Eastern Contra Costa Transit Authority / 17 mph avg. bus speed; avg. number of transfers per trip: 25% (expressed as percentage of riders needing to transfer); no other data provided
El Dorado County Transit Authority / no data provided
Golden Empire Transit District / 14 mph avg. bus speed; Avg. walking distance to stops; less that ¼ mile; Bus avg. est. route length: 10 miles; no other data provided
Livermore Amador Valley Transit Authority / Avg. bus speed 30 mph; avg. # of transfers per trip: 30% (expressed as percentage of riders needing to transfer); avg. walking distance to stops: ¼ mile; Bus avg. est. route length: 5.0 miles
Long Beach Transit / Avg. bus speed: 11 mph; Bus avg. est. route length: 12.86 miles; Water taxi est. route length: .5 miles; no other data provided
Los Angeles County Metropolitan Transportation Authority / Avg. bus speed: 12.3 mph; avg. # of transfers per trip: 0.8 (one); avg. walking distance to stops: 0.5 miles (10 mins.);

Bus avg. est. route length: 13 miles (one-way directional); Rail avg. est. route length: 19 miles
Merced County Transit / Avg. bus speed 18.1 mph; avg. # of transfers per trip: 2; avg. walking distance to stops: 1/3 mile; Bus avg. est. route length: 8 miles
Omnitrans / Avg. bus speed: 13.78; avg. walking distance to stops: ¼ mile; Bus avg. est. route length: 12.69; no other data provided
Redding Area Bus Authority / Avg. bus speed: 26 mph; avg. of transfers per trip: 3 (expressed as number of transfers per hour); avg. walking distance to stops: ¼ mile; Bus avg. est. route length: 14 miles
Riverside Transit Agency / Avg. bus speed: 35 mph; Bus avg. est. route length: 7.23 miles; no other data provided
Roseville Transit / Avg. bus speed: 15 mph; avg. #of transfers per trip: 1; Bus avg. est. route length: 7 miles
San Diego Harbor Excursion /no data provided
San Diego Transit Corporation / Avg. bus speed: 12.35 mph; avg. # of transfers per trip: 7.29; avg. walking distance to stops: one to a few blocks; Bus avg. est. route length: 17.2 miles
San Joaquin Regional Transit District / Avg. bus speed: Stockton Metro: 10.6 mph; DAR 12.4; avg. walking distance to stops: between ¼ and ½ mile; Bus avg. est. route length: Stockton Metro Area: 10.9 miles; Bus Intercity 40.5 miles; Bus interregional: 61.3 miles; no other data provided
Santa Clarita Transit / Avg. bus speed: 20 mph; avg. # of transfers per trip: less than 1; avg. walking distance to stops in minutes: 10 min; Bus avg. est. route length: 18 miles;
Santa Cruz Metropolitan Transit District/ 13.54 mph avg. bus speed; no transfers, each ride is paid for separately; there is no tracking mechanism; avg. walking distance unknown; 12.03 avg. est. route length by mode.
SCRRA/Metrolink /Avg. number of transfers per trip: 1.08; Rail avg. est. route length: 68 miles; no other data provided
Siskyou County Transit /Avg. bus speed: 50 mph; no other data provided
Sonoma County Transit / Avg. bus speed: 18 mph; Bus avg. est. route length: 15.84 miles; no other data provided
Unitrans/City of Davis / Avg. bus speed: 10 mph; avg. # of transfers per trip: 0; avg. walking distance to stops: .1 mile; avg. est. route length: 6.3 miles
Victor Valley Transit Authority /Avg. bus speed: 19.36 mph; Bus avg. est. route length: 20.1 miles; no other data provided
Yuba-Sutter Transit / Avg. bus speed: local 15 mph; commuter: 45 mph; avg. # of transfers per trip: 20 % (expressed as a %age of riders needing to transfer); avg. walking distance to stops: ¼ mile; Bus avg. est. route length: local : 6-8 miles; commuter: 40-45 miles
4. Are you aware of any current marketing efforts within your agency aimed at increasing ridership on its transit services? If so, please provide us with the details of these efforts.
Transit Operator/Response(s)
Altamont Commuter Services • Cooperative ticket vending outlets at major employers or business parks;

Central Contra Costa Transit Authority • Mid-day free fare for seniors and disabled
City of Santa Maria • Bus stop improvements-shelters, benches, route signage, trash cans, etc. • Revised schedule brochures- one brochure for all services in English and Spanish; • Increase media advertising through revenues generated by advertising sales on buses, shelters and benches; Also a barter program; • Improve route services and transfer center
Culver City Municipal Bus Lines • Currently the Culver CityBus system does not have a marketing effort in place. Mainly due to overcrowding issues on lines 4 and 6.
Eastern Contra Costa Transit Authority • Direct mail – we mail informational pieces to potential customers announcing new service, changes in service and increased frequency of service; • Television advertising – we have 4 television commercials that we air promoting local service, commuter service and express service; • Community events – we attend community events and set up an informational booth where we distribute information about ourselves; • Newspaper advertisement – we have a contact with the local newspaper organization for a weekly advertisement spot; • New Resident Program – we mail a letter and tickets to all new residents in our service area. The letter introduces the new resident to our service and we invite them to give us a try; • Movie screen advertisement – we have an on-screen advertisement with a local movie theater inviting residents to try our express service.
El Dorado County Transit Authority • Georgetown service • Dial-a-Ride • Commuter Routes • All local fixed routes
Golden Empire Transit District • No response provided
Livermore Amador Valley Transit Authority • Map/schedule – the major source for the dissemination of information relating to routes/schedules and fares is the Route and Map Schedule. This document is revised and reprinted annually. • Newspaper/magazine advertising – Throughout the year, LAVTA places display ads in the Tri-Valley Herald and Valley Times. Placing display ads in local newspapers allows LAVTA to appeal to the consumer visually, resulting in a more impactful impression. Display ads allow LAVTA to target markets and audiences that can be easily reached via the publications system of circulation and distribution. In addition, The publications' frequency ensures the distribution of time-sensitive information. • Newsletter – LAVTA publishes the WHEELS Newsletter as a means to tell the story about the organization. Editorials, stories and other information are gathered from various sources and provide teachers with information that is enjoyable and

informative. Topics on service offered by the LAVTA, transportation trivia, photographs and other graphic images are included to make the newsletter fun to read. The newsletter features a story call "Employee Spotlight".

- Rider alerts – customers are notified of changes to routes and schedules via Rider Alerts. Following the format of a flyer, Rider Alerts provide the dissemination of information in a timely manner;
- Car cards – changes in route information are also displayed in the interior of the buses via car cards. Car cards are produced by vendors and by in-house marketing staff;
- Wheels Logo Design painted on exteriors of all buses and ancillary vehicles – each passenger vehicle (bus/van) is clearly identified by the WHEELS logo design;
- Cable – LAVTA has developed a high quality advertising commercial that runs at strategic periods throughout the year. Programming stations and "time spots" are selected to target current riders and those individuals that would most likely use public transit at some point (i.e. teens traveling to and from school, work-week commuters, seniors traveling around the community running errands, etc.);
- Internet – The most rapidly growing marketing vehicle for LAVTA is its' web site, www.wheelsbus.com .Through LAVTA's web site, customers can access information such as bus time and schedules, fare information, range of services, and hours of operation, etc.;
- Bus stop information – To ensure that riders have the current information they need to use the service, LAVTA posts "Information cards" at bus stop locations affected by a specific change;
- Driver/Road Supervisor – Customer service training – A myriad of activities occur to ensure that riders receive on-time service delivered with the highest levels of customer service from Road staff personnel (i.e. driver and/or road supervisors). Road staff personnel frequently encounter opportunities to assist customers and extend goodwill to riders on behalf of the Authority (assistance with map/schedule, walking directions from stops to other destinations, etc.). To ensure that assistance is delivered in a courteous and helpful manner, drivers and road supervisors receive intensive and on-going customer service training;
- Membership in Dublin/Livermore/Pleasanton – Chamber of Commerce – LAVTA maintains active participation in the Chamber of Commerce for each of the three cities within its' local jurisdiction. In addition, LAVTA actively participates in activities sponsored by the Chamber and seeks opportunities to network and/or speak at Chamber functions to promote public transportation and LAVTA services;
- Public education – (speaking engagements/transit information fairs, open houses). LAVTA actively seeks opportunities to provide the public with information on the benefits of using public transportation, specifically the WHEELS system. Activities include speaker presentations at schools, senior centers, senior housing facilities, and Tri-Valley employers. In addition, LAVTA hosts Open House forums to solicit input from community citizens in the planning of its services;
- Press Releases - LAVTA utilizes press releases to announce events such as new equipment, new route, and services, appointment of new board members or community advisory committee members, employee promotions, ridership records, etc.;
- Press Conferences – LAVTA utilizes press conferences as an opportunity to release specific information and offers the media equal access to the information;

- In addition, Livermore Amador Valley Transit Authority has established a Promotional Activities Plan to support its general marketing plan:
- Annual Food Drive – This event is held during the holiday season and feature a Food-A-Fair – rides for fares program. Riders donating a canned food item upon boarding the bus, receive a ticket for a free ride on the WHEELS system. Donation is placed in holiday collection barrel that is secured near the entrance of the bus. The program is announced via a community service announcement. A strategically timed display ad is placed in a local newspaper, announcing the activity. In addition, WHEELS personnel stage a Canned Food Drive at local grocery store to collect additional donations;
- Proceeds from the food drive go to needy families in the Tri-Valley area. Individuals volunteering to collect donation receive a Food-A-Fair T-shirt in appreciation of their contribution to time and energy to the program;
- Ridership milestone – when a milestone is reached (i.e. one-millionth rider) LAVTA seizes the opportunity to extend goodwill to the community. A human-interest story is placed in a local newspaper to highlight the event;
- Parades – WHEELS buses participate in numerous community parades during the year (i.e. City of Dublin, St. Patrick's Day Parade and Livermore Halloween Parade).

Long Beach Transit

- Comprehensive, ongoing marketing campaign using TV advertising, outdoor billboards, bus wraps, exterior bus advertising. New web site set to launch in June 2001. Continuous participation at local community/business events and fairs to promote LBT services on-site with premiums and collateral materials. On-going education program with fifth grade students.

Los Angeles County Metropolitan Transportation Authority

- Metro Rail – MTA actively markets its 50-station urban rail system to new riders through bill board and radio ads, as well as, cross promotions with destinations along the lines;
- Metro Bus – MTA introduces new bus services, including Metro Rapid, Harbor Transitway express, and other new lines through newspaper ads, direct mail and billboards.

Merced County Transit

- We are looking at: Implementing a special "after school" bus pass for youths ages 6-16 to use the bus service to a free school activity (i.e. Boys and Girls Club, etc.);
- Increasing the frequency (headways on all of our routes to 30 minutes).

Omnitrans

- Activities connected with the 25th Anniversary Celebration:
- Many radio remotes at transit transfer locations;
- Direct mail pieces to homes in 13 of the JPA cities: included employee resident profile, free coupons, and specific transit route information;
- 25-cent ride days (4 throughout the year);
- Web site (www. Omnitrans.org) constant updating. Includes various contests and rider incentives;
- Vintage Bus – completely refurbished for community events and parades;
- Directions – an on-board rider newsletter published quarterly;
- Outreach efforts – (Speakers Bureau) civic groups, community centers, high schools,

school tours, health/community fairs, etc. (July 1, 2000 through March 27, 2001= 31 occasions)
- Senior Outreach – special educational program to encourage use of public transit.
- selected sites for on-site "how to" education with demonstration bus
- special publication targeted to seniors with information and free ride coupons;

Redding Area Bus Authority
- Currently use newspaper, television, and radio to advertise for RABA. Public education in the schools is provided by classroom instruction and coloring books.

Riverside Transit Agency
- The million-mile bus promotion recognizes bus #3013 for having been driven on million miles on the streets of Western Riverside County. Marketing materials focus on the extraordinary accomplishment of the RTA maintenance department that was responsible for oil changes, engine overhauls and general upkeep of the bus. Marketing efforts include radio ads, newspaper ads, interior bus cards, large window-sized decals placed on the bus to look like an odometer turning to the millionth mile, a lengthy feature article in the local newspaper that resulted from a press release generated by the marketing department, an article in RTA's passenger newsletter On Board Bulletin, and a drawing for a giveaway: a million miles on RTA in the form of a lifetime bus pass;
- The "Steppin' Out with Public Transit Promotion" uses radio ads , a cable TV ad, newspaper ads, interior bus cards, as well as, a special bus painted with footprints by elementary school students. The colorful bus drove a regular route in the students' city for several days, once it was painted. The focus of the promotion is to use the springtime to remind the public to use transit. All marketing materials used bright, vivid colors and images and a variety of feet and shoes to attract the attention of existing and potential riders;
- The Retro Pass Promotion focuses on youths riding in the summertime. The Retro Pass is good for the three month of summer – June, July and August- for the half-price cost of $39. The pass is available to students in grade 1-12, and is called the Retro because the price turns back the clock. Marketing materials use verbiage and images that are appealing to youth, for example a Converse-style high top sneaker is seen on all materials for this year's Retro Pass promotion. In addition at the end of the promotion in August, there will be a drawing for a $500 shopping spree to Macy's. Materials include the Retro Pass itself, ads placed in all school newspapers within RTA's service area, radio ads, interior bus cards, counter cards on display at all places where bus tickets and passes are sold and fliers.

Roseville Transit
- Summer Youth Bus Passes sold on school campuses;
- Guest speaking at Neighborhood Association meetings;
- Quarterly Transit newsletter sent electronically to large employers;
- Participation in Senior fares;
- Visits to Senior apartment complexes to take pictures for senior ID cards.

San Diego Harbor Excursion
- On-going costly marketing. No other response provided.

San Diego Transit Corporation
- Marketing is not a San Diego Transit Corporation responsibility. Referral to MTDB

Director of Marketing.
San Joaquin Regional Transit District • SJRTD has created various programs targeting specific groups such as college students, downtown employees and interregional commuters. In addition, on-going marketing efforts are aimed at current riders and those who do not use public transit; • A summer pass promotion will be offered during the summer months to students. This promotion reduces the price of the 31-day pass by 25%; • Staff works on an on-going basis with the Employee Transportation Coordinators at work sites in the Bay area and Sacramento to promote our Interregional Commuter services to their employees; • The District will implement significant service improvements in May 2001 and has developed a marketing effort that includes radio and print. Additionally, posters will be placed in all buses, at schedule and pass outlets and at various agencies throughout the city. A "free ride" week will be offered to kick-off the improved services. The service improvements will increase the service hours on weekdays by over 11%, and on weekends/holidays nearly 35%. These improvements will make riding public transit a more attractive option to current and new riders. It is important that the public be made aware of these improvements, and through the marketing effort, the District hopes to encourage those who currently ride to ride more frequently and those who have not tried our service to try the service.
Santa Clarita Transit • Free ride coupons; • Summer youth pass; • Frequent Rider Program • October ½ price pass; • Free Ride Days; • New homeowner mailings; • Ambassador Program; • Attendance at rideshare and job fairs;
Santa Cruz Metropolitan Transit District ❑ Television commercials, school presentations, exhibit at county fair, ads on buses.
SCRRA/Metrolink • Peak commuter direct marketing campaign • New resident campaign • Special trains and promotions • Reverse service marketing
Siskyou County Transit • No.
Sonoma County Transit • Mission: Promote the County's fixed-route system and paratransit services as safe, reliable comfortable and cost-effective public transportation for the residents and visitors to the County of Sonoma. • Objective A: Maintain or increase ridership on the County's fixed-route system and paratransit services through cost-effective promotions and communications with existing and potential patrons;

- Objective B: Develop and implement marketing campaigns that target transit dependent residents located in specific areas of the County of Sonoma and/or are members of special interest groups such as senior citizens, persons with disabilities, students and the Spanish speaking population;
- On-going marketing promotions:

- Summer Cruisin' Pass – Each summer SCT offers a $15 summer youth pass to students who are 18 years of age or younger. The pass is good for unlimited rides on the Sonoma County Transit fixed-route system between June 1 and August 31. Approximately 600 Summer Cruisin' passes were sold during the summer of 2000. This program continues to be a successful strategy to introduce SCT's fixed-route system to a new customer base and maintain student ridership during the summer months. The pass is promoted by SCT through information packets mailed to all schools in the County served by the fixed-route system. These packets include youth pass order forms and posters.
- SSU and SRJC – SCT provides fixed-route service to and from the Sonoma State University via several Intercity and local routes. Monthly passes are sold at the SSU Student Union during the year. In addition, SRJC purchases monthly passes at the regular price from SCT and resells them to full-time students on campus at a one-third discount.
- Bikes-on-Buses – SCT continues to transport bicycles on all Intercity routes in the fixed-route system. The Bikes-on-Buses brochure explains how to use the outside bicycle rack, how to properly secure a bicycle inside the bus, identifies the bus routes that permit bicycles, and outlines various other policies and special rules for the program.
- Identification Cards – On an ongoing basis, SCT staff issues Regional Transit Discount Cards at its administrative offices in Santa Rosa and at various locations throughout the County upon request. SCT also issues identification cards to social service agency employees who will be training clients with disabilities to use the fixed-route system.
- Public Notices – Interior bus advertising is used to post general non-profit community services, public notices and to advertise Sonoma County Transit's programs, schedule changes, and other community events and public service announcements.
- Media/News Releases – Media/news releases focus on major schedule of policy changes for the fixed-route system or ADA paratransit services, ridership records, and other special activities conducted b SCT. The purpose of media/news releases is to make new organizations more aware of SCT's new and continuing programs and to promote the importance of SCT as a values and integral part of the community.

- FY 1999 and 2000 Marketing Promotions:

- Poetry on the Bus – In an effort to enhance the bus riding experience, SCT displayed Sonoma County Poet Laureate Don Emblen's poems in the interior bus advertising space on all buses in its fleet during fiscal year 2000. In FY 2001, the project will be expanded to include a poetry writing contest for which the winning poetry will be displayed in the interior of all of SCT's revenue vehicles during each month throughout the year.
- Charge your bus pass – Since 1996, SCT has accepted major credit cards as payment for bus passes. Passengers can either visit the transit facility to purchase a pass or more conveniently charge it on a credit card over the phone. Several passengers give SCT

permission to debit their credit card accounts each month in order to automatically purchase a new monthly pass. In FY 2000 SCT also began making bus pass sales available through its webpage: www.sctransit.com.

- Maps and Directories – SCT's systemwide map for the fixed-route system was updated in 1999 to include new routes and all fare zones. SCT's telephone numbers and service area descriptions also appear in many information and referral directories. A map of SCT's service area is also displayed on most Chambers of Commerce maps produced throughout the County. At no cost to SCT, Pacific Bell includes a map of SCT's fixed-route system and telephone information numbers in their annual Sonoma County directory.
- First Night 1999 and 2000 – SCT provided free rides to persons attending the 1999 and 2000 Santa Rosa First New Year's Eve street party. SCT also provided free shuttle service to different locations of the event within downtown Santa Rosa.
- Shuttle service and parades – During FY 1999 and 2000, SCT provided shuttle service for several special events. Providing shuttle service helps relieve traffic congestion at special events and also provided SCT an opportunity to introduce the County's fixed-route system to persons who may not be familiar using public transportation. SCT also participated in various parades during FY 1999 and 2000.
- Personal presentations – SCT marketing staff makes personal presentations to various Chambers of Commerce, senior citizens groups, student associations and business organizations. Staff also provides information about SCT's fixed-route and paratransit service at business expositions, schools, street fairs and transportation-related symposiums.

• Targeted Marketing Campaigns:

- Develop a cooperative partnership with the Student Unions of SSU and SRJC to increase the awareness of the County's fixed-route system.
- Promote SCT Summer Cruisin' Pass to youths 18 and younger at the Santa Rosa Wednesday night market, through direct marketing to all County schools served by SCT, and through the use of local radio, television and print advertising.
- Continue to expand and promote SCT's satellite bus pass sales program and the 31-day pass at various shopping centers throughout the County.
- Conduct personal presentations at senior citizen organizations throughout the County and place advertisements promoting the County's fixed-route service in various local senior citizen newsletters and publications.
- Focus on increasing ridership among the County's Hispanic community by advertising on local Spanish-language radio stations and in local Spanish-language publications and by producing schedule timetables, route maps, and brochures with Spanish-language subtitles, whenever possible.
- Use direct mail marketing to residents located in specific areas of the County to increase awareness and use of routes that have experience relatively lower ridership.
- Update and maintain SCT's webpage and respond to all e-mail messages and bus pass purchase requests in a timely manner.

• Internal Employee Education Programs:

- Create a marketing bulletin board to be located in the hallway to the bus operators break room to keep all employees aware of upcoming marketing campaigns and to solicit ideas for new promotions.

- In cooperation with the County's planning staff and fixed-route operations contractor, conduct post-bid bus operator and information staff training session explaining upcoming service changes to routes in the County's fixed-route system. - Provide a minimum of three (3) hours of customer relations training for all bus operators, in cooperation with the County's operations contractor, with an emphasis on interacting effectively with the general public. - Require a minimum of two customer relations training sessions for all bus operators covering basic Spanish language phases, in cooperation with the County's operations contractor. • Coordination Efforts - SCT's marketing staff has worked cooperatively with marketing staff from Santa Rosa CityBus. This has included providing coordinated shuttle service for Santa Rosa's First Night event and establishing various other joint marketing campaigns. SCT also participates in "Try Transit Week" , which is a regional marketing campaign promoting the use of public transit throughout the San Francisco Bay Area, sponsored in part by the MTC.
Unitrans/City of Davis • No response provided.
Victor Valley Transit Authority • Senior Day • Free-ride-clean air day • Upcoming commuter service • Bike racks
Yuba-Sutter Transit • Summer youth pass program
5. Which of the following group(s) does your agency focus upon when marketing new or existing transit services? (*Please check one or more boxes, as applicable)*
Transit Operator/Response(s)
Altamont Commuter Services ❑ Those who ride now and might increase their frequency ❑ Current riders who may or may not choose to remain riders ❑ Those who have never used public transit
Central Contra Costa Transit Authority ❑ Those who ride now and might increase their frequency ❑ Those who have never used public transit
City of Santa Maria ❑ Those who ride now and might increase their frequency ❑ Current riders who may or may not choose to remain riders ❑ Those who have never used public transit
Culver City Municipal Bus Lines ❑ Those who have never used public transit
Eastern Contra Costa Transit Authority ❑ Missing page. No response provided.

El Dorado County Transit Authority ❑ Those who have never used public transit
Golden Empire Transit District ❑ Those who ride now and might increase their frequency ❑ Current riders who may or may not choose to remain riders ❑ Those who have never used public transit
Livermore Amador Valley Transit Authority ❑ Those who ride now and might increase their frequency ❑ Current riders who may or may not choose to remain riders ❑ Former riders: those who rode when they were young, financially constrained or otherwise rendered ❑ Those who have never used public transit
Long Beach Transit ❑ Those who ride now and might increase their frequency ❑ Current riders who may or may not choose to remain riders ❑ Former riders: those who rode when they were young, financially constrained or otherwise rendered ❑ Those who have never used public transit
Los Angeles County Metropolitan Transportation Authority ❑ Those who ride now and might increase their frequency ❑ Current riders who may or may not choose to remain riders ❑ Former riders: those who rode when they were young, financially constrained or otherwise rendered ❑ Those who have never used public transit
Merced County Transit ❑ Those who ride now and might increase their frequency ❑ Those who have never used public transit
Omnitrans ❑ Those who ride now and might increase their frequency ❑ Current riders who may or may not choose to remain riders ❑ Former riders: those who rode when they were young, financially constrained or otherwise rendered ❑ Those who have never used public transit
Redding Area Bus Authority ❑ Those who have never used public transit
Riverside Transit Agency ❑ Those who ride now and might increase their frequency ❑ Current riders who may or may not choose to remain riders ❑ Former riders: those who rode when they were young, financially constrained or otherwise rendered ❑ Those who have never used public transit
Roseville Transit ❑ No response provided.
San Diego Harbor Excursion ❑ Those who ride now and might increase their frequency ❑ Current riders who may or may not choose to remain riders ❑ Former riders: those who rode when they were young, financially constrained or otherwise rendered ❑ Those who have never used public transit

San Diego Transit Corporation
- No response provided.

San Joaquin Regional Transit District
- Those who ride now and might increase their frequency
- Those who have never used public transit

Santa Clarita Transit

Santa Cruz Metropolitan Transit District
- Those who ride now and might increase their frequency
- Current riders who may or may not choose to remain riders
- Former riders: those who rode when they were young, financially constrained or otherwise rendered
- Those who have never used public transit

SCRRA/Metrolink
- Those who ride now and might increase their frequency
- Current riders who may or may not choose to remain riders
- Former riders: those who rode when they were young, financially constrained or otherwise rendered
- Those who have never used public transit

Siskyou County Transit
- Those who ride now and might increase their frequency
- Current riders who may or may not choose to remain riders
- Those who have never used public transit

Sonoma County Transit
- Those who ride now and might increase their frequency
- Those who have never used public transit

Unitrans/City of Davis
- Those who ride now and might increase their frequency
- Those who have never used public transit

Victor Valley Transit Authority
- No response provided.

Yuba-Sutter Transit
- Those who ride now and might increase their frequency
- Current riders who may or may not choose to remain riders
- Former riders: those who rode when they were young, financially constrained or otherwise rendered
- Those who have never used public transit

6. What issues relative to "non-traditional" transit riders does your agency believe requires further research or clarification? *Please use additional sheets as necessary.***

***The "non-traditional" transit rider which is a particular focus of this work effort can be loosely defined as an individual that currently uses transit as a mode of travel, either temporarily or intermittently for a variety of reasons (personal automobile temporarily unavailable, new in town, etc.) These persons can also be discretionary or choice riders, and may use transit regularly a minimum of 1-2 days per week for various trip purposes. Caltrans recognizes that transit agencies vary greatly in their definition and understanding of the non-traditional transit rider, as well as, their approaches to marketing transit as a*

travel alternative to this rider group. Therefore we respectfully request your assistance in seeking to clarify our understanding of this group.
Transit Operator/Response(s)
Altamont Commuter Services ❑ Reverse commute markets
Central Contra Costa Transit Authority ❑ What are the minimum thresholds for frequency of service (headways) or travel time to attract and retain the non-traditional transit rider?
City of Santa Maria ❑ No response provided.
Culver City Municipal Bus Lines ❑ I think each region has its own "non-traditional" riders and that each ride transit for their own reasons. It would be helpful to know what is that reason, why or why not, do non-traditional transit riders use transit within a region.
Eastern Contra Costa Transit Authority ❑ No response provided.
El Dorado County Transit Authority ❑ No response provided.
Golden Empire Transit District ❑ How much additional time might a person be willing to spend using transit (when they have access to an auto)? ❑ What incentives would entice a non-traditional customer to get on a bus for the first time? ❑ How high would gas prices need to go before they would turn to public transportation?
Livermore Amador Valley Transit Authority ❑ What are the key challenges that transit operators must overcome to swing solo drivers from their autos, and become public transit users?
Long Beach Transit ❑ None at this time. LBT's broad-based marketing campaign speaks to both riders and non-riders and does not target market due to budget constraints.
Los Angeles County Metropolitan Transportation Authority ❑ Are free ride offers successful at converting non-riders? ❑ What approach motivates non-riders to become occasional transit riders, promoting the use of transit in conjunction with auto use when appropriate?
Merced County Transit ❑ No response provided.
Omnitrans ❑ The non-traditional transit rider is encouraged to think of transit as a viable alternative or possible future mode if two things are present: shorter ride times, and more frequent headways. Reaching this target audience with information that addresses their perceived need is the challenge.
Redding Area Bus Authority ❑ No response provided.

Riverside Transit Agency ❑ Where is the non-traditional going? And coming from? ❑ What time of day does he/she ride? ❑ What are his/her personal interests? ❑ What are his/her reasons for not riding public transit?
Roseville Transit ❑ How to market effectively to infrequent riders who use service less than two times per week ❑ How to target mailing to reach populations likely to use transit
San Diego Harbor Excursion ❑ Additional ferry routes
San Diego Transit Corporation ❑ No response provided.
San Joaquin Regional Transit District ❑ No response provided.
Santa Clarita Transit ❑ The need to increase or decrease commuter hours of service
Santa Cruz Metropolitan Transit District ❑ None
SCRRA/Metrolink ❑ No response provided.
Siskyou County Transit ❑ No response provided.
Sonoma County Transit ❑ No response provided.
Unitrans/City of Davis ❑ No response provided.
Victor Valley Transit Authority ❑ No response provided.
Yuba-Sutter Transit ❑ No response provided.
7. Does your agency have a working Geographic Information System (GIS) which depicts and geographically maps the agency's transit routes and service area? YES/NO *(Please circle one)*
Transit Operator/Response(s)
Altamont Commuter Services /No
Central Contra Costa Transit Authority/No
City of Santa Maria /No
Culver City Municipal Bus Lines /No
Eastern Contra Costa Transit Authority No
El Dorado County Transit Authority /No
Golden Empire Transit District /Yes
Livermore Amador Valley Transit Authority /No

Long Beach Transit / No response provided.
Los Angeles County Metropolitan Transportation Authority / Yes
Merced County Transit / Yes
Omnitrans / Yes
Redding Area Bus Authority / No
Riverside Transit Agency / Yes
Roseville Transit / Yes
San Diego Harbor Excursion / No
San Diego Transit Corporation / No, this function is performed at the regional governmental level.
San Joaquin Regional Transit District / No
Santa Clarita Transit / No
Santa Cruz Metropolitan Transit District / No
SCRRA/Metrolink / Yes
Siskyou County Transit /No
Sonoma County Transit / No
Unitrans/City of Davis / Yes
Victor Valley Transit Authority / No
Yuba-Sutter Transit / No
8. If yes to question #7, please provide information on the following: **A. GIS software used** **B. B. GIS data format** **C. C. Age of data**
Transit Operator/Response(s)
Altamont Commuter Services / No response provided.
Central Contra Costa Transit Authority/ No response provided.
City of Santa Maria / No response provided.
Culver City Municipal Bus Lines / No response provided.
Eastern Contra Costa Transit District /No response provided
El Dorado County Transit Authority / No response provided
Golden Empire Transit District /Map Info DOS version
Livermore Amador Valley Transit Authority / No response provided
Long Beach Transit / No response provided
Los Angeles County Metropolitan Transportation Authority / ArcView 3.2/Shape files/ data is 2 years old;
Merced County Transit /Arc View
Omnitrans / ESRI Arc View and Arc Info/ NAD83, State Planes/Update annually
Redding Area Bus Authority / No response provided
Riverside Transit Agency / Teletrac/unknown format/3-4 years old;
Roseville Transit / ArcInfo and Arc View/ARC/INFO coverages/ age of data varies with dataset;
San Diego Harbor Excursion / No response provided

San Diego Transit Corporation / No response provided
San Joaquin Regional Transit District / No response provided
Santa Clarita Transit / No response provided
Santa Cruz Metropolitan Transit District / No response provided
SCRRA/Metrolink / Arc View/shape files/ various
Siskyou County Transit / No response provided
Sonoma County Transit / No response provided
Unitrans/City of Davis / Arc View / .shp files (with .dbf data files) / up to date
Victor Valley Transit Authority / No response provided
Yuba-Sutter Transit / No response provided
9. If yes to question #7, would your agency be willing to share this information with Caltrans and/or other operators? YES/NO (*please circle one)*
Transit Operator/Response(s)
Altamont Commuter Services / No response provided
Central Contra Costa Transit Authority/ No response provided
City of Santa Maria / No response provided
Culver City Municipal Bus Lines / No response provided
Eastern Contra Costa Transit District / No response provided
El Dorado County Transit Authority / No response provided
Golden Empire Transit District /No, it is an old DOS version which will be replaced by a GPS system in two years.
Livermore Amador Valley Transit Authority / No response provided
Long Beach Transit / No response provided
Los Angeles County Metropolitan Transportation Authority / Yes and No; Depends upon Thomas Bros. Licensing agreement;
Merced County Transit / Yes
Omnitrans / Yes
Redding Area Bus Authority / No response provided
Riverside Transit Agency / No response provided
Roseville Transit / No response provided
San Diego Harbor Excursion / No response provided
San Diego Transit Corporation / No response provided
San Joaquin Regional Transit District / No response provided
Santa Clarita Transit / No response provided
Santa Cruz Metropolitan Transit District / No response provided
SCRRA/Metrolink / Yes
Siskyou County Transit / No response provided
Sonoma County Transit / No response provided
Unitrans/City of Davis / Yes
Victor Valley Transit Authority / No response provided
Yuba-Sutter Transit / No response provided

10. If no to question #7, would your agency consider assistance from Caltrans or other agencies to develop GIS route and service area data? YES/NO *(Please circle one).*
Altamont Commuter Services / No response provided
Central Contra Costa Transit Authority/ Yes
City of Santa Maria / Yes
Culver City Municipal Bus Lines / Yes
Eastern Contra Costa Transit District / Yes
El Dorado County Transit Authority / Yes
Golden Empire Transit District / No response provided
Livermore Amador Valley Transit Authority / No response provided
Long Beach Transit / No response provided
Los Angeles County Metropolitan Transportation Authority / No response provided
Merced County Transit / No response provided
Omnitrans / No response provided
Redding Area Bus Authority / No
Riverside Transit Agency / No response provided
Roseville Transit / No response provided
San Diego Harbor Excursion / No response provided
San Diego Transit Corporation / No response provided
San Joaquin Regional Transit District / Yes
Santa Clarita Transit / Yes
Santa Cruz Metropolitan Transit District / Will consider depending upon staffing levels.
SCRRA/Metrolink / No response provided
Siskyou Transit / Yes
Sonoma County Transit / Yes
Unitrans/City of Davis / No response provided
Victor Valley Transit Authority / Yes, planned for near future to tie fixed-route with paratransit. Could use help.
Yuba-Sutter Transit / Yes

APPENDIX E

A total of approximately 500 fields were created and then organized into manageable groups of approximately five questions as follows:

A. Q01-05
B. Q06-10
C. Q11-15
D. Q16-20
E. Q21-25
F. Q26-29
G. Q30-34
H. Q35-39
I. Q40-44
J. Q45-49
K. Q50-54
L. Q55-62
M. Q63-70

Numerical totals were calculated for each question. See the following example:

Question 1 (Q1): "What types of local trips do you make each day?"
Q1a + Q1b = Q1tot

Where:
Q1a = Commute to work
Q1b = Both school and work
Q1tot = total responses to Q1a and Q1b

Each question group was geocoded by county and converted to ArcView shape files as follows:

N. Q01-05.shp
O. Q06-10.shp
P. Q11-15.shp
Q. Q16-20.shp
R. Q21-25.shp
S. Q26-29.shp
T. Q30-34.shp
U. Q35-39.shp
V. Q40-44.shp
W. Q45-49.shp
X. Q50-54.shp
Y. Q55-62.shp
Z. Q63-70.shp

End users of the GIS shape files described above can display each question both as a raw number and by percentage of responses to each multiple choice answer. To facilitate mapping the survey results as percentages, a custom tool button was developed a by Civic Technologies. The tool can be used as follows:

1. Identify a survey question from the Code Book to map, for example:
   Question 1 (Q1): "What type of trips do you take each day?"
   Q1a: Work trip
   Q1b: Both work and school trips

2. To map the percentage of survey respondents who chose "Q1a", click on the custom button.

3. At the prompt "Select the field to classify by", use the pull down menu to select "Q1a", then press enter.

4. ArcView automatically maps the results by percentage of respondents by county.